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Walker D. Hines' Contribution

WHEN Walker D. Hines retired from the chairmanship of the board of directors of the Cotton-Textile Institute at the annual meeting Wednesday of this week, he left behind him the record of a contribution to the American textile industry which has never been excelled by that of any one man.

We make that statement advisedly—and with due appreciation of the danger of superlatives.

It is true, of course, that the nature of his position favored him. He was given, if not greater authority, certainly greater opportunity for leadership than has ever before been conferred upon an individual. However, a man of lesser intellectual and moral stature would not have capitalized that opportunity as has Mr. Hines.

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Looking back over the last five years, we feel that much of the success of the Institute has been due to the character of the man who was its president from 1926 to 1929, and its chairman from 1929 to 1931. By "character," we mean the inherent characteristics of Mr. Hines.

His reputation and experience, his keen knowledge of world and national economics, his legal training—all helped him in his job with our industry and in his acceptance by the members of the industry. More effective than any of these factors, however; more effective than the sum total of them, were the principles for which he stood.

Entering the textile manufacturing field as an "outsider"; professing no special knowledge of its detailed problems, Mr. Hines almost immediately impressed its members with his integrity, his impartiality, his balance, and his vision. Without any tricks of showmanship, he has yet dramatized the job which had to be done. Without the least touch of arrogance, he has yet assumed the duties of a leader. Without a suggestion of conceit, he has yet imparted assurance and confidence in his program.

He has worked quietly; so quietly, in fact, that some men whose sensibilities can be reached only by brass bands, may have questioned the extent of his leadership. And yet he has worked effectively; so effectively, in fact, that he leaves a strong organization which, under the able direction of George A. Sloan, is prepared to carry on, without the slightest impairment, the program which Mr. Hines initiated.

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In his work, Mr. Hines had the support of leaders of the cotton textile industry—a support more actual and more cordial than that ever before given to the chief executive of a textile association. Without that support, he could have made no progress. But without the qualities of character which distinguish him, he could not have gained that support.

The results of his efforts have extended beyond the confines of the cotton industry. Every other division of textile manufacture has watched carefully the activities of the Cotton-Textile Institute; each of the other branches has learned from it something of the lesson of cooperation.

Despite the fact that his work extended over five depressed years in the industry, Mr. Hines retires with his record of accomplishment untarnished by depression; in fact, enhanced by a realization of the adverse conditions which he faced.

The stamp of his character and of his ideals is indelibly fixed upon the history of the industry he has served.

The Week in Textiles

as Reflected in This Issue

General

Novelty Yarn Manufacture

The manufacture of novelty yarns calls for much experimentation with samples and involves an alertness of mind and never-say-die spirit that are not part of the make-up of every manufacturer. However, those who succeed in this line of endeavor are due to reap rich rewards. *(page 26)*

D-13 Meets

Committee D-13 of the American Society for Testing Materials met in Washington, D. C., last week. The essential character of its work was stressed and new specifications considered. New testing devices were described. *(page 28)*

S.T.A. Mechanics Meet

The Master Mechanics Section, Southern Textile Association, met at Gastonia Oct. 17 and members exchanged views on their current problems. Interesting suggestions on power plant operation and equipment maintenance were offered. *(page 35)*

Chattanooga Golf

The seventh annual golf tournament of the Chattanooga Textile Golf Association was held recently and drew a large attendance. A two-day session closed with a supper and distribution of prizes. *(page 36)*

Drop Annual Dye Census

The abandonment of the annual dye production census by the U. S. Tariff Commission is a matter of regret to many. On top of that there seems to be no valid reason for discontinuing this service which has satisfied both users and makers of dyes. The census had been continuous since 1917 and was an aid to the chemical industry in balancing production. *(page 38)*

Clogless Pump

Announcement is made of the development of a clogless pump for handling sewage and other liquids containing solids and corrosive materials. *(page 46)*

Shawl Weave

To make a fabric that is all white on one side and all color on the other, the shawl weave or double plain weave is necessary. A complete layout for this weave is supplied, together with general advice relating to the manufacture of a fabric having this construction. *(page 49)*

Uncertainties Restrain Recovery

General business is nearing bottom, says Dr. L. H. Haney in this week's TEXTILE WORLD Analyst, but such great uncertainties are created by proposals for inflation, threatening domestic political action, and international complication, that the depression is likely to be prolonged. Should an early rise be "stimulated" by inflation, he says, a later crash would be inevitable; by restoring sound conditions we can restore confidence. *(page 51)*

Cotton

Cotton-Textile Institute's Annual

Walker D. Hines retired as chairman; George A. Sloan was reelected president and Russell A. Leonard and B. B. Gossett were elected vice-presidents of the Cotton-Textile Institute at annual meeting last Wednesday. Report of president reflected noteworthy progress in many directions. At afternoon session most comprehensive display of cotton products was the drawing card and hundreds of representatives of allied trades heard exposition of opportunities for increased use. Government officials and others contributed to discussion. Mr. Hines took occasion to indict those few individuals who have not aligned themselves with the constructive policies of the industry. *(page 20)*

Has Bottom Been Passed?

Strength came to cotton this week and by reason of its arrival attracted more support which in turn brought more strength. Although reactions are only natural market observers feel quite satisfied that the low point for the season has been passed. *(page 55)*

Yarn Interest Revives

Cotton yarn inquiry and sales have improved considerably this week under stimulation of rising raw material. Buyers are still holding out for rock bottom prices which do not reflect higher cotton, but spinners in great majority are not considering such figures. There is interest in 1932 deliveries but spinners are loath to quote. *(page 55)*

Cotton Goods More Active

Cotton goods have been moving briskly again and a number of sellers report the best week's business recorded since last June. Much business was done at last week's low prices but this week quotations were up $\frac{1}{8}$ to $\frac{1}{4}$c. on gray goods. Finished goods were seasonally dull but more confident due to better tone in convertibles. *(page 59)*

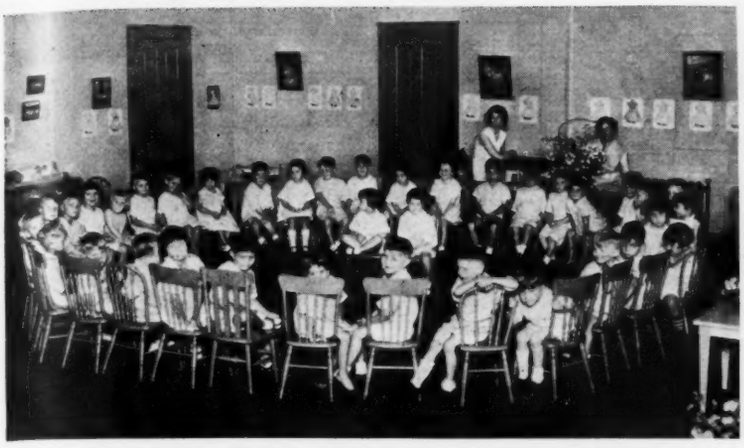
Wool

Neps in Woolen Carding

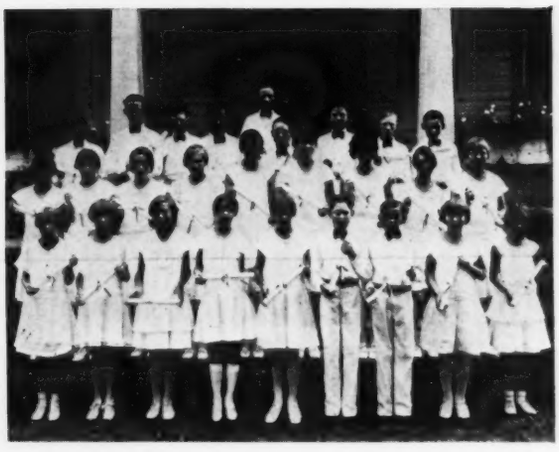
The formation of neps in woolen carding may be minimized by the application of a suitable emulsion to the stock and by paying careful attention to the card settings. The finer sorts of wool offer the greatest difficulty in this

The Textile Outlook

BETTER sentiment referred to in this report last week, has in the meantime blossomed into better business in some branches of the textile market. Particularly in cottons there has been evidence of confidence in values and a fair amount of forward buying. In wool goods trading is still slow, retarded perhaps by belief that raw wool may still meet a measure of recession. Silks are hopeful that better sentiment may soon help them as their spring season is backward but the raw material fairly firm. Seasonable knit goods have felt the stimulus of cooler weather. Hosiery mills are fearful that the Christmas business, though doubtless large, will be held back and concentrated into a last minute demand which will be embarrassing. Behind the whole textile situation is the hopefulness which the formation of the banking pool has brought. Retailers have been more willing to bring their prices down into line with primary markets and consumers' greater confidence in the banking structure of the country may mean that money will come out of hiding and be more freely spent.



Kindergarten of the Avondale Mills at Sycamore, Alabama



Graduating class of the Avondale School

Phases of community activities among the children of Avondale Mills employees

respect. Specific recommendations for the elimination of these troublesome defects are offered. *(page 34)*

Yarns Below Cost

Irregular prices and movement continues in worsted yarns. Sales are reported which most spinners declare are at prices considerably under the lowest net cost they can figure. Cutting quality is also rife. *(page 55)*

Wool Market Very Quiet

Extreme quiet is reported in wool circles with further weakening of prices. Slow movement of finished goods is given as cause and wool dealers still regard prices as being fairly firm under the circumstances. *(page 57)*

Quality Fabrics Selling

Spring wool goods demand leans to quality fabrics where prices are steady, contrasted with keen competition in popular-price ranges. *(page 59)*

Knitting

Rust Spots in Hosiery

Rust is determined as one cause of discolorations which appear on hosiery. The places where these spots may originate are pointed out, and a procedure by which this defect may be corrected is outlined. *(page 48)*

Will It Be a Hosiery Christmas?

The knitters hope it will, but so far buyers have been very hesitant; only a few chain groups have placed holiday orders. *(page 61)*

They're Changing to Woolens

Ribbed underwear sales went up, as soon as the temperature went down and now mills are some weeks behind in deliveries. *(page 61)*

Good Call for Fleece Coats

Outerwear mills making fleece coats are behind in deliveries due to sudden jump in sales. Buyers also have difficulty in getting worsted pullovers. *(page 61)*

Silk

Evenness Evaluation

Two methods of determining the percentage of unevenness of raw silk have been developed. An explanation of these methods is accompanied by tables showing the results of calculations based upon the various tests. It is believed that this data will be of assistance in the grading of raw silk. *(page 30)*

Raw Silk Quiet

Market passes a quiet week, with some call from hosiery mills but no interest at broadsilk end. *(page 57)*

Spinners Get Inquiries

A rush on inquiries has cheered spun silk mills and these firms hope for spring business soon. Thrown yarn market is quiet. *(page 57)*

Fabric Outlook Uncertain

Delayed openings and hesitant buyer attitude has made broadsilk companies a bit dubious about spring. *(page 59)*

Rayon

Coarser Denier Preferred

Current yarn demand, which is below last month, leans chiefly to the coarser deniers, 150 and up. Price outlook doubtful. *(page 57)*

Processing

Finishing Wiper Cloth

A finishing routine designed for the purpose of securing the softest possible handle on fabrics to be used for wiper cloths is given. The breaking machine is an essential factor in obtaining this soft, raggy feel. *(page 46)*

Water Colors on Silk

Sulfonated castor oil is suggested as an agent to increase the solubility and dispersion of water colors used to tint silk. *(page 46)*

Improved Stock Dryer

Announcement is made of a new individually motor-driven stock dryer designed for high-production drying of raw and dyed stock. Each section has an individually operated fan, and the air circulation is efficient. *(page 46)*

The Business Outlook

ALL the crucial questions requiring large-scale constructive action to speed recovery remain in a state of suspension this week. Emergency remedies applied to the banking situation and offered to the railroads by the rate decision, as well as provisional arrangements which have improved the European political and financial picture, have temporarily relieved the tension and put the patient in a more comfortable position pending further consultation by the doctors on the advisability of more drastic operations. The stock market has steadied itself under stringent regulation and in expectation of further stimulation from official action; but the bond market continues weak under the abnormal pressure of higher money rates. Most encouraging among the reactions to developments of recent weeks is the strengthening of key commodities, probably in anticipation of ultimate inflation as the only exit from our economic dilemma. Slight symptoms of scattered business improvement have appeared in some localities and special lines, but are not yet reflected in the figures.—*The Business Week.*

Cotton Institute Honors Hines—

Hears Indictment of Non-Conformists

THE Cotton-Textile Institute, at its sixth annual meeting at the Hotel Biltmore, New York, on Wednesday, fully maintained its reputation for departing from the routine in its meetings. Probably the most unique feature was the remarkable display of cotton products, certainly the most comprehensive and illuminating exhibition of this type ever gathered together in one place. Members and guests were enthusiastic in their praise of the display and many expressed the hope that it might be made the basis of a permanent exhibit.

On the personal side, the outstanding development was of course the retirement of Walker D. Hines as chairman of board of directors, after serving three years as president and two years as chairman. The regret felt by the members at this loss was tempered by the realization that Mr. Hines would continue to advise, through his law firm, as counsel; and that his personal attachment to the industry and its individuals would induce him to keep in close touch with developments in the future. The regard in which he is held was reflected in his election as the first honorary member of the Institute.

Other significant features of the meeting included the presentation of a noteworthy record of achievement in the annual report submitted by President George A. Sloan; and the presence of Government officials and representatives of the principal allied trades at the afternoon session, devoted to a consideration of opportunities for increased consumption of cotton.

Thirty directors were elected at the annual meeting, 25 being chosen for a term of three years, and one for a term of two years and 4 for a term of one year to fill vacancies. At a meeting of the board of directors held the same day, George A. Sloan was elected president; B. B. Gossett, Charlotte, N. C., and Russell H. Leonard, Boston, were elected vice-presidents; Gerrish H. Milliken, New York, treasurer, and Paul B. Halstead, secretary. New members of the executive committee include:

Weston Howland, Boston; Charles D. Owen, New Bedford, Mass.; Wm. D. Anderson, Macon, Ga.; R. E. Henry, Greenville, S. C.

The following members of the Executive Committee were re-elected:

Robert Amory, Boston; Harry L. Bailey, New York; Bertram H. Borden, New York; Charles F. Broughton, New Bedford, Mass.; Charles A. Cannon, Kannapolis, N. C.; Donald Comer, Birmingham, Ala.; Stuart W. Cramer, Cramerton, N. C.; R. H. I. Goddard, Providence, R. I.; John A. Law, Spartanburg, S. C.; Henry F. Lippitt, Providence, R. I.; G. H. Milliken, New York; H. Nelson Slater, New York.

Mr. Sloan, Mr. Gossett and Mr. Leonard are members of the Executive Committee ex officio.

Hines Assails Obstructionists

Mr. Hines did not mince words in his criticism of those few manufacturers who persist in practices which are harmful to the industry as a whole. An abstract of his remarks follows:

I want to emphasize my conviction, after four-and-a-half years of study, that the Institute has become an essential factor in this industry. It is going to play a most important part in the more prosperous times that are ahead of it. I do not think we require any argument that the Institute is needed and will continue.

The greatest concrete achievement of the Institute has been the encouragement of the elimination of night employment of women and minors, and the standardization of hours to a maximum of 55 for day shift and 50 for night shift. These moves are of the greatest advantage from both humanitarian and economic standpoints.

The statistical position of the industry lays a firm foundation for progress as time moves on. Unfortunately, on the basis of the present price condition, it is occasionally argued that nothing which has been done is any good. As a matter of fact, we are going through a world-wide depression and this fact does not militate against the conviction that a great deal of progress has been made.

What I want to emphasize is my belief that the difference between the unsatisfactory situation that exists and the situation that would exist if we had full support of the night work movement, can be laid to a very few manufacturers who do not observe that move.

They are prominent men; they take pride in themselves; they believe they are rendering a public service; they want to appear to stand well in their communities. But can these gentlemen who perpetuate uncertainty by refusing to adopt an appropriate reform, show that they are helping the industry?

On the contrary, I believe that they are doing the industry a great harm. The fear of steadily diminishing prices, as a result of excessive pressure to put goods on the market, constitutes the most demoralizing influence in the trade. I believe it is these gentlemen who will not adopt the reform, who perpetuate this price uncertainty. I believe they are doing a dis-service to the trade. Much of the responsibility for present conditions must be placed on those who run full day and night, with women and minors on the night shift.

It is interesting to note their attitude. They say in effect: "It is deplorable how bad things are; it is the other fellows who are forcing goods on the market." That cannot be so since they themselves are doing the forcing.

Are they benefactors as to labor? I believe they persuade themselves that they are, on the basis that they give their employees full-time work. (Incidentally in their cases full-time is certainly needed in view of the low wage-rate at which they usually operate.)

If they regard themselves as leaders, they must realize that what they are doing is done at the expense of demoralization for all other employees in the industry. If they work night and day, they are creating greater instability of employment in the rest of the industry. Instead of benefiting labor, they are greatly hurting labor.

As I see it, these gentlemen have made a fetish of continuous mass production. A curious result growing out of this is that, while they persuade themselves they are good money-makers, they are actually selling goods under their own costs. They unconsciously shut their eyes to part of their costs. They are not only willing to sacrifice labor and to sacrifice their customers, but have gotten to the point where they are willing to sacrifice themselves.

A word as to mergers. We all know there are far too many units among the mills and the selling agents. It has always seemed to me that sound mergers are important and in the interests of the industry. Some may feel that in times of depression there is no chance for mergers. If complicated

What Happened at Cotton-Textile Institute Meeting

Walker D. Hines retired as chairman of board and was unanimously elected first honorary member of Institute. . . . George A. Sloan re-elected president, and Russell H. Leonard and B. B. Gossett elected vice-presidents. . . . Annual report presented by Mr. Sloan reflected noteworthy progress in many constructive directions. . . . Mr. Hines, in his remarks, indicted those few manufacturers who are not supporting the sound moves undertaken by the industry. . . . Afternoon session devoted to consideration of possibilities for increased consumption of cotton, and attended by representatives of the Government, the wholesale and retail trades, and other allied lines . . . Remarkable display of cotton products featured.

financing is necessary, that may be true, but I feel that the soundest mergers are those involving merely exchange of securities among the merging firms—and any time is appropriate for such combinations. The industry should be alert all the time to encourage sound mergers. There is no cause to worry about conflict with the anti-trust laws, under the present decentralized condition of the industry. On the other hand, there exists the highest economic reasons for their consummation.

Stuart W. Cramer in offering the resolution to make Walker D. Hines an honorary member, stated that the Institute had been greatly benefited by Mr. Hines' work. The resolution was seconded by ex-Senator Henry F. Lippitt, who remarked that the organization could not have had a man who would have conducted its affairs better.

Walker D. Hines, retiring chairman of the board of directors of the Cotton-Textile Institute

Institute Has Helped Minimize Distress

BY "EXAMINING the record" of the Cotton-Textile Institute during the last year, President George A. Sloan, in his annual report, focused attention on eight major phases of progress, including the elimination of night employment of women and minors, the so-called "55-50" plan, the adjustment of production to demand, the observance of sound cost principles, the use of arbitration methods, the promotion of cotton, etc. He then reviewed in detail each of the major activities of the Institute. His report follows, in part:

The last twelve months represent, in the life of the Institute, a period of intense and concentrated effort. A review of the organization's activities will show the important extent to which they have helped to minimize the distress of cotton manufacturers and their employees during a time of extreme anxiety the world over. Such a review will afford, also, a perspective of the policies formulated by our board of directors and the contribution they continue to make, steadily but surely, in stabilizing the largest manufacturing industry in America.

Let's examine the record:

1. Acceptance by a preponderant party of the industry of the recommendation that night employment of women and minors be discontinued. This policy is now being pursued by approximately 48% of the cotton mills in the United States.

2. A greater realization of the detrimental effects of regular night running.

3. The continued observance by mills throughout the industry of the shorter work week policy contained in the Institute's 55-50 recommendation.

4. Increasing evidence of disposition on the part of mills, in the main, to adjust production to demand; and the amazing reduction in stocks. The latter is a phenomenon occurring to a far more striking degree in the cotton manufacturing industry than in any other of the major industries for which records are available.

5. The further observance of improved cost methods as shown by their adoption by approximately three million additional spindles.

6. The publication of an authoritative treatise on yarn mill cost finding and the recognition of the Institute's Cost Section as a source of leadership toward sound merchandising policies.

7. Growing resort to arbitration methods for settling commercial disputes following establishment by the Institute of the General Arbitration Council.

8. The industry's successful efforts in directing public attention to the products of cotton, the high points of interest being the remarkable demonstrations of enthusiasm in the hundreds of cotton festivals and exhibits culminating in National Cotton Week, when merchants throughout the nation aggressively promoted the sale of cotton goods.

Night-Work Recommendation: Shortly before our last annual meeting on Oct. 15, 1930, there had been made public the recommendation of the Institute's board of directors looking to the discontinuance of the night employment of women and minors in the cotton textile industry. The subject was beginning to arouse great interest at that time and the members present at the last annual meeting registered their endorsement of the measure by an overwhelming vote.

Acting on this vote of confidence, the Institute, through its membership, its officials and its staff undertook to explain to the industry generally the advantages of this policy.

On Feb. 28, 1931, the Institute announced to the mills subscribing to this recommendation that over 26,000,000 spindles, comprising 83% of the industry, including 79% of the spindles in the night running classification, had indicated conformity to it and that the recommendation had become effective. A continuing survey since March 1, 1931, consisting mainly of visits by our field representatives, has disclosed the fact that over 99% of the mills indicating

conformity have actually put the recommendation into practice.

Since March 1, mills representing over 500,000 additional spindles have informed the Institute that they are not employing women or minors at night. Some of these advised us that they were practicing this specific policy, others that they do not run at all at night. With these additional spindles the aggregate conformity to the recommendation now stands at over 84% of the total spindles in cotton mills, including 80% of those in the night running classification.

It should be emphasized that this proposal does not advocate, nor did it ever contemplate, the substitution of men in place of women in the conduct of night operation. On the contrary, the recommendation was expected to operate as a deterrent to regular night shifts, and it thus looks to the elimination of this practice which has long been detrimental to the interests of the industry, of its employees, its customers, and the general public, because of its disrupting influence upon market stability and upon regularity of employment. The opinion has been freely expressed by mill executives that the full benefit of this far-sighted policy will only be experienced when industry and employment more nearly approach normal conditions. Under such circumstances, it is unlikely that there will be sufficient male help available to carry on the work formerly conducted at night by both men and women, and there will be less willingness on the part of men to attempt work for which they are unfit.

Review of Statistics: A remarkable reduction of stocks has characterized the merchandising of cotton goods since our last annual meeting. Compared with that time stock of cotton goods have decreased 37%. Carded goods are at the lowest point in the four-year period for which comparable reports have been compiled and fine goods are 20% lower than two years ago when statistics were started in this group.

These drastic stock reductions seem to be peculiar to the cotton manufacturing industry, as they do not appear in any of the other major industries for which reports as to inventories are available. In some of these major industries, such as lumber, paper and printing, and manufactured chemicals and oils, stocks at the end of August (the latest figures obtainable) were actually in *excess* of the quantity on the same date in the previous year, and were also in excess of the three-year average for the month of August. In other major industries stocks are lower than at preceding periods but the shrinkage in no way approaches the heavy reductions that are indicated in the cotton manufacturing industry.

The strong statistical position of the industry has not resulted in improved manufacturing margins. They are, in fact, at the lowest point for a number of years, despite the heavy reductions in stocks referred to, and the curtailed production.

It is evident that while the mills were successful in regulating their production to demand, they were also offering their goods at prices substantially below cost. One is led to question why, under these circumstances, mills subjected themselves to such destructive losses. With the fact in mind that demand in most lines, compared with previous years, has been abnormally low, and competition for the available business consequently much more acute the mill losses, nevertheless, have been so extensive as to indicate an entire absence of faith in the ability of the industry to obtain a dollar return for a dollar expended.

Cost Section Activities: The efforts of our Cost Section have been distinguished this year by the publication of a comprehensive cost manual for yarn mills, and the inauguration of a program of direct installation of cost systems in yarn mills by our representatives. These activities, supplemented by general service of a less definite nature to the industry at large, have contributed to rapid increase in the adoption of proper cost methods throughout the industry.

At the time of the last annual meeting the Cost Section was proposing a program for rapid improvement of cost methods among carded yarn mills, which involved collaboration between its representatives and those of certain prominent cost consultants. This effort was prompted by the scarcity of proper cost methods among carded yarn mills, the relatively small size of such mills, and their consequent reluctance to incur any large expenditure for such purposes. A further consideration was the demoralization of the carded yarn market believed due, in no small measure, to neglect of cost information. Under this plan uniform methods of predetermining costs, based on the Institute's cost manual then in preparation, were to be installed for any carded yarn mill willing to reimburse the consultants in question on the basis of a sliding rate per spindle which was set at a radically reduced figure in consequence of the wholesale nature of the work proposed and in recognition of the collaboration proposed by the Cost Section.

Under the depressed business conditions, price resistance prevented rapid participation in this plan. Accordingly, the Cost Section then proposed the direct installation of predetermined cost methods in such mills, assigning its own field agents to this work, the mills to reimburse the Institute at cost for the time and expenses of the field agent performing the work including the cost for typing and supplies. The proposal made no charge for supervision or promotion, nor for clerical effort on the part of the New York office. A major share of the Cost Section's efforts during recent months has been devoted to advancement of this particular work.

The publicity given this plan among carded yarn mills resulted in requests for similar service from combed yarn mills, with the result that it has been extended to the latter group. It is expected that its progress will be equally rapid with both types of mills.

Up to the present time 2 mills, comprising 444,000 spindles, have authorized this work. In approximately six months cost installations have been completed by our two field agents in 15 mills comprising 297,000 spindles. The bills to these 15 mills totalled about $6,000.00 representing a cost per mill of about $400.00 and a cost per spindle of approximately 2c.

Arbitration: Since announcement at the last annual meeting of new facilities for arbitration to be offered by the General Arbitration Council of the Textile Industry, rules were established and a panel of arbitrators set up containing over ninety names from various branches of the industry.

Exports: In our annual report for 1929, we referred to an analysis of the export situation, prepared in January of that year, in which increased concentration of selling activities in export markets was recommended. In our 1930 report, reference was made to the Institute's long continued attention to the cotton goods export situation, which resulted in the organization of the Textile Export Association of the United States, the secretary of which was F. A. Colt of the staff of the Cotton-Textile Institute. This Association now has 44 members including, with one or two exceptions, all independent exporters, commission houses and converters doing a direct export trade.

Distribution Survey: The annual distribution survey for the calendar year 1930 was issued in August to participating mills and selling agents. A greater number of selling agents and mills than ever before filed their reports and the aggregate figures represented 4,087,000,000 yd. or 65% of the total estimated yardage produced in 1930. The consolidated report furnished to the participants gives comparative figures as to the importance of the various channels of distribution of cotton textiles.

Registration of Trade Marks: The file of textile trade marks, which the Institute took over from TEXTILE WORLD in 1930, is being kept up-to-date from the records of the U. S. Patent Office. A reference to the file may be helpful in cases where our members are considering the use of a certain trade mark or brand name.

New and Extended Uses for Cotton: With prices of cotton textiles fully reflecting the lowest cotton prices of the present century, the work of our New Uses Section has became of greater importance and service to the industry than ever before.

At the last meeting of our Executive Committee, it was decided that the Institute should again sponsor a National Cotton Week during the coming year and the week beginning May 16, 1932, was designated for such an event. The members of the Institute and the many associations that helped to make National Cotton Week such an outstanding success this year are urged to give this matter their careful thought. I am hopeful that you will be able to make suggestions as to how the industry may realize the maximum of benefit during National Cotton Week next May.

New and Extended Uses for Cotton *Dramatized at Trade Rally*

AN OUTSTANDING point of interest in connection with the annual meeting of the Cotton-Textile Institute Wednesday was the exhibit of cotton products at the afternoon session, undoubtedly one of the most comprehensive displays of these products ever shown in this country.

Opportunities for increased consumption of cotton provided the keynote of the session which was attended not only by many manufacturers but by several hundred guests including Government officials, representatives of cotton-growing interests, converters, finishers, wholesalers, brokers and representatives of large consumers, resident buyers for department stores and general purchasing agents.

Recognizing the profound importance to farming interests of fostering increased cotton consumption, Hon. Arthur M. Hyde, Secretary of Agriculture, was present at the afternoon session, accompanied by Arthur W. Palmer, in charge of Division of Cotton Marketing, U. S. Department of Agriculture. The War Department and the Department of Commerce were represented respectively by Brig. Gen. Henry C. Whitehead of the Quartermaster Corps, U. S. Army, and Edward T. Pickard, Chief of the Textile Division.

The afternoon session was opened by George A. Sloan, President of the Institute, who addressed the gathering stressing the desirability of cotton products for reasons both of utility and economy, pointing out the great benefits to the millions of people dependent upon cotton which would result from a general increase in its use.

Intense interest was developed by the unusual showing of the industry's wares. The exhibits were unidentified as to their producers but were so designed as to display the wide range of uses to which cotton manufactured products may be applied. It was stated that these exhibits were provided through the cooperation of over 250 manufacturing and converting organizations. As examples of items of wearing apparel there were to be seen summer suits of cotton, cotton underwear, socks, trousers, caps, neckties, shirts, pajamas, gloves, shoes, overalls, sports clothes, work clothing, uniforms, dresses, nightgowns and hats.

As examples of household uses the exhibit included sheets, pillow cases, blankets, ticking, bedspreads, cotton envelopes for the inner springs of mattresses, tablecloths, napkins, bridge sets, towels, wash cloths, bath mats, shower curtains, window shades, curtains and draperies, mops, garment bags, laundry bags, and other products.

George A. Sloan, reelected to the presidency of the Cotton-Textile Institute

Wall coverings made of coated fabrics, printed fabrics and flexible wood veneers mounted on cotton sheeting were prominently displayed. A striking assortment of tents, awnings, bathing pools, cushions, beach equipment, sporting goods, trunks, handbags, flags and banners was to be seen.

Among the industrial and agricultural uses of cotton which were demonstrated were cotton picking sacks, baling materials, electrical insulation, cords, twine, thread, airplane propellers, gears, pinions, buffing and polishing wheels, power transmission and conveyor belting, highway markers, and cotton fabric for road building purposes.

The automobile industry, which it was stated employed an average of 32 lb. of cotton per passenger car, was represented by tires, upholstery materials, tops, brakebands, hose connections, etc. Exemplifying hospital and sanitary uses the exhibit included surgical gauze and cotton, sanitary bandages, adhesive tapes and other similar materials. A wide variety of bags ranging from tiny sacks used as tea balls to large containers for fertilizer, seed and vegetables, and including mail bags, cement bags, sugar and flour bags, was a prominent part of the exhibit.

Opportunities for Increased Cotton Use

FROM time to time news items have appeared describing new uses for cotton —and extension of existing uses. Probably never has the information on this trend been assembled so completely and so concisely as in George A. Sloan's address at the afternoon session of the Cotton-Textile Institute Wednesday of this week. Mr. Sloan's remarks follow, in part:

With the circumstances exceptionally favorable for expanding the uses of cotton, it is only natural that "Opportunities for Increased Consumption" should be the keynote of the Cotton-Textile Institute's sixth annual meeting.

If there ever was a psychological time in the history of the cotton industry to take vigorous steps in this direction,

that time is the present. The price of cotton textiles reflects the lowest price of the raw material in 30 years. Manufacturing costs have been greatly reduced. The attractiveness and durability of cotton goods have been improved. During recent months it has been repeatedly demonstrated that there is a great public interest in the problems of the cotton farmer, in the reforms taking place in cotton manufacturing, in expanding industrial uses of cotton, in the renaissance of cotton in the field of fashion, and, indeed, in everything that concerns this basic commodity in American life.

Developments during the past year give much encouragement to this belief that the demand for cottons, in both new and established markets, can be greatly increased. Witness the wave of "Use and Wear Cotton" community campaigns last spring which have their counterpart this fall in exhibits at state and county fairs. Witness, too, the magnificent support of merchants in all parts of the United States during National Cotton Week last June!

It is particularly pleasing to see among our guests such a representative group of retail and wholesale merchants. The cotton items that pass through your hands, starting with the familiar spool of thread, are countless. Therefore, in considering the opportunities for increased consumption let's examine first of all some of the items sold over the retail counter. A striking illustration is the full-length 108-in. bed sheet, today selling for less than a 90-in. length sheet two years ago.

B. B. Gossett, elected vice-president of the Institute

The economy and comfort of cotton blankets have established this item as a leader in house furnishing promotion. Likewise, the same elements coupled with the variety of beautiful designs account for the usual response to current sales of cotton bedspreads. Cotton towels offer still another item of impressive sales volume for distributors and today's exhibit reflects the new decorative trends in these household necessities.

In quite another way the market for cotton towels can be almost immeasurably extended. I have in mind the unsatisfactory substitutes which have crept into general use in offices, factories, schools and public buildings. After all, there is no substitute that provides the comfort and drying efficiency of a cotton towel. Before we leave this subject of towels, and particularly bath towels, we in this country have much to learn from Europe. Our American bath towel excels in quality and style but the European trade goes in more for the development of consumer consciousness of the proper sizes for the different members of the family. Give me every time the larger size that lends itself to stimulation of circulation and a greater enjoyment of that early morning shower! Our American manufacturers and distributors should correct this unfortunate tendency toward skimpy sizes.

Happily for cotton, we are experiencing a constantly increasing demand for comfortable summer clothing for men. It is but natural that cotton suits—cool, attractive and washable—should come into favor and cotton manufacturers are now making appropriate preparations with new designs and cloth construction to supplement the well-known materials heretofore used.

The sturdiness and economy of cotton accounts for its widespread utilization in clothing the American workman. Thanks to the rising standard of personal appearance insisted upon today by employers and employees alike, the cotton textile industry has succeeded in bringing out a wide array of work clothing items to be sold alongside the old standby blue denim—as strong and satisfying as a chew of pure leaf!

Turning to a totally different field of usefulness, the decorations of the home and the scores of household conveniences and specialty items indispensable in modern housekeeping present practical ways to consume cotton in great quantities. Interior decorators of repute tell us that the trend to small apartments, especially pronounced in urban centers, makes more appropriate cotton draperies, curtains and various types of cotton upholstered chairs.

In considering some of the outstanding possibilities for the greater utilization of cotton through "industrial outlets," attention is at once drawn to cotton bags. The Government mail bag is cotton—so is the covering on an individual tea ball. Sugar, salt and flour and many other grocery items are likewise packaged in cotton and numerous bulk commodities such as cement, fertilizer, and feeds. Approximately 700,000,000 bags of all kinds and sizes are used in a single year and the limitations of this market are by no means yet approached.

The variety of wall coverings of cotton now available promise to take a constantly increasing yardage of cotton into homes and office buildings. From the original adaptations of the familiar oil cloth, all manner of interesting and beautiful fabrics have been created. Coated fabrics, specially finished printed fabrics, small patterned calicoes and even thin veneers of real choice cabinet woods mounted on cotton sheetings are finding increasing acceptance with varying appeals of practicability and originality.

I take it that all of us are aware of the important contribution to the pleasure of motoring that has come from the improved type of construction of cord fabrics going into automobile tires. But do you know that approximately 32 lb. of cotton, including this tire fabric, go into the production of the average pleasure car? As a related offshot, 32 square yards of cotton are needed for the fabric covering wings and fuselage of the Vought-Corsair pursuit plane and others employed by the Army and Navy. In the case of the most notable addition to our aerial armament the Navy dirigible, U. S. S. Akron, more than 92,000 sq.yd. of American manufactured cotton were consumed in making the outer envelope and inner gas cells.

The banner over the speaker's platform has been placed here for double duty—first, to emphasize the keynote of this convention and, second, to demonstrate the adaptability of cotton fabric for signs and banners. Without including the material that goes into flags and bunting, more than 15,000,000 sq.yd. of various cotton materials were used last year in the display signs of many of our best known national advertisers.

Then we turn to the contribution of cotton in the realm of sports—particularly those of the summer season. The uniforms of contestants in all sorts of athletics are made of cotton. If it is bathing in the backyard or at the beach, there should be a cotton canvas wading pool, together with the comfort and protection of cotton beach chairs and umbrellas. These are to be seen in one of the most unusual of the exhibits here today. A few weeks hence, when the frost arrives to make real football weather, a heavy cotton tarpaulin will be spread on the gridiron to keep it from freezing, thus opening another market.

The propensity or desire of the average person to travel reminds one of another use for cotton frequently overlooked. The smart traveler has luggage ensembles—they may be gaily striped canvas-covered trunks and hand-pices of dull or shiny handbags made of a coated cotton sheeting. The use of cotton for this purpose has been given tremendous impetus from the increase in airplane travel with the consequent need for light but strong luggage.

Among the many ideas lately brought forward for effecting an increased consumption of cotton, there is unquestionably none that grips the imagination so much as the use of cotton fabric in road construction. When we think of such delicate and fragile cotton fabrics as organdy, batiste or voile, there is perhaps an understandable reluctance to be-

lieve that roads can be built of cotton cloth. Yet this is true, as has been effectively demonstrated in actual construction.

Another promising market for coarse cotton cloths that has come to the front with the present low prices of the raw material is that for cotton baling. For generations it has been the common practice to cover bales of raw cotton with other than cotton fabrics. This year, however, cotton growers and manufacturers together have worked to bring about a more general acceptance of cotton baling fabrics. To manufacture the covering that would be required for a single season's crop would consume probably close to 200,000 bales of raw cotton, with benefits on all sides.

I would like to direct special attention to the exhibit here today of cotton fabric letterheads and other specimens of printing and lithographing on cotton. Although cotton stationery was first introduced as a novelty a little more than a year ago, its practicability soon established itself, with the result that more than 3,000,000 sq.yd. of cotton have been consumed for the purpose. Another 4,000,000 yd. of 38-in. width cotton cloth is cut up annually into more than 100,000 miles of typewriter ribbons.

There are numerous opportunities for the cotton farmer himself to help in developing a greater market for his product. Reference has already been made to cotton baling materials for raw cotton. In still other ways, the cotton farmers' influence would be helpful. For example, our contacts with manufacturers of fertilizer, of which the cotton farmer is probably the largest single buyer, indicate that cotton bags are being used to a constantly increasing degree in the shipment of this commodity.

Of more importance in the aggregate than perhaps any of these, however, is the undeveloped market for cotton picking sacks and sheets which the cotton grower uses in abundance.

A review of developments in extending the markets for cotton could not properly be complete without reference to the constructive contribution of the cotton manufacturers themselves in utilizing more cotton in connection with their own operations. During the past year, there has grown a better appreciation of the intrinsic merits of belting made of cotton fabric and rubber combined.

In connection with the exhibit of industrial specialties showing the utilization of cotton fabrics in combination with such materials as synthetic resin, attention may be directed to the almost limitless number of products. Undoubtedly, the most unusual of them is the airplane propeller. Many of the items are necessities, such as automobile gears, machine equipment, tool handles and other things that are hardly thought of as containing cotton textiles in any form.

At the conclusion of Mr. Sloan's address, several members and guests spoke enthusiastically regarding the outlook for cottons.

Miss Margaret Case, associate editor of *Vogue*, stated that in the last five years there had been a marvelous change in the attitude of cotton manufacturers. Where formerly they had little interest in fashion developments, they are now on their toes. In addition, she feels that fashion trends today are very much with the cotton manufacturer. The smart woman is wearing cotton. Information which she has received from Paris forecast an intensification of this trend—even to the extent where women will be wearing checked ginghams and dotted swiss.

Cason J. Callaway, president of the American Cotton Manufacturers' Association, brought out the interesting thought that since cotton is an American product it should become identified with this country in the popular mind just as wine is with France and linen with Ireland. He pointed out that we have been exporting about 60% of our cotton and that it will be impossible to export any such percentage during the next ten years. Consequently the only answer is to increase domestic consumption and to place as our goal for that consumption 9,000,000 bales instead of the 6,000,000 bales which we have been using on the average.

Alston H. Garside, economist for the New York Cotton Exchange, presented statistics to show that the carryover of American cotton at the end of this year will be the greatest in history, while the carryover in foreign cotton will be less than last year. Therefore the surplus is all in American cotton. To correct this, we can reduce production of raw cotton, expand old uses and exploit new uses, and substitute American cotton for foreign cotton. All of these three forces, he believes, are working today. Men on the cotton exchange are now noticing an increased investment interest on the part of manufacturers, merchants and others. Mr. Garside believes that men inside and outside the trade are beginning to recognize the present value of cotton.

Benjamin Weiss, merchandise manager of Gimbels, Inc., stated that his store is interested in cottons because it is finding them profitable. Gimbels' sales on all cotton items this year have exceeded sales on the same items last year. This bright spot, he believes, is due to the excellent styling and creative activity supplied by the Institute. His company was so well pleased with National Cotton Week that it has decided not to wait until next June to repeat the event. They believe cotton can be promoted profitably every day in the year.

Russell H. Leonard, elected vice-president of the Institute

Brigadier General Whitehead, representing the War Department, brought out the interesting information that textile manufacturers have recently produced a cotton khaki which is superior in quality and appearance to any previously offered. It was tried out on one regiment and was enthusiastically received. They are going ahead now to supply this khaki to American forces in foreign countries and next year will provide the home army with it.

E. T. Pickard, chief of the Textile Division of the Bureau of Foreign & Domestic Commerce, stated that the officials of the Department of Commerce have a definite conviction that the accomplishments of the Cotton-Textile Institute have made it one of the outstanding organizations in the country. He expressed the belief that, if the Institute should apply for the trade association medal in 1931, it would win it.

A. W. Palmer, of the U. S. Department of Agriculture, who has been active in the New Uses Committee, stated that no one has a greater stake in increased consumption of cotton than the cotton grower himself. The principal opportunity for relief for him lies in expanding consumption of the staple.

Mr. Hines concluded the discussion by remarking that those in attendance should go away with a profounder impression of the opportunities for expansion in the future.

Manufacture and Use of Novelty Yarns *Require Alertness and Patience*

By James A. Austin
New England Editor, TEXTILE WORLD

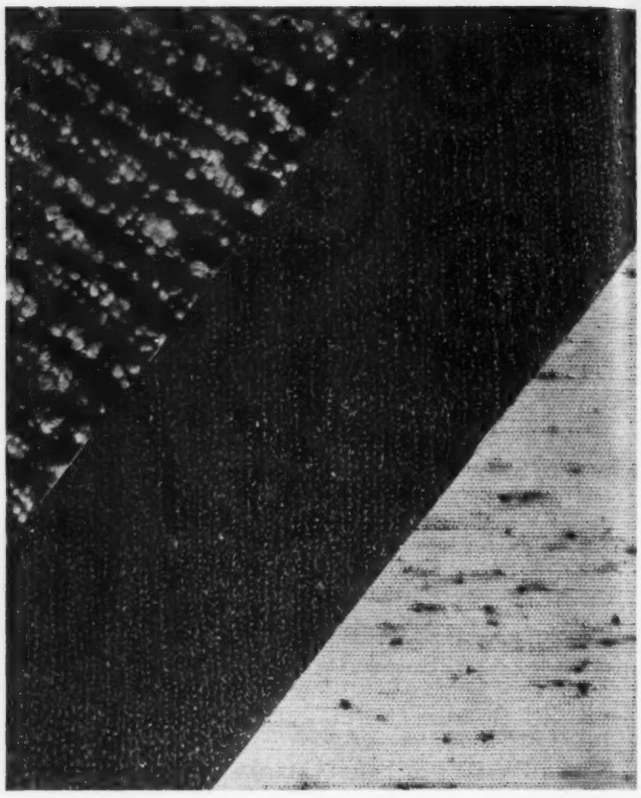


Fig. 1, All-cotton overcoating; Fig. 2, All-rayon ratine; Fig. 3, Silk noil and rayon confetti.

TWO divergent tendencies are in evidence today in the styling of fabrics. One is exemplified by the manufacturer who believes that the safest course is to take less chances than usual and stick to sure-selling lines, even though competition is extremely keen; and the other finds its champions among the manufacturers who believe that the only way to make a real profit is to go in for highly styled lines where, even though the hazard is great, alertness can minimize errors and collect the reward for initiative. It is the latter group which has added impetus to the manufacture and use of novelty yarns of late.

Any attempt to describe all the kinds of novelty yarns is hopeless, since each manufacturer is striving every day to create something new; but there are certain general classifications, such as loops, flakes, and knots. In general, loops (as the name implies) consist of spaced loops formed by varying feeding one of the plies so that it has a chance to curl. Flakes are a type in which the size of the single yarn is radically coarsened at intervals to form lumps. Knot yarns are formed by causing one of the plies to wind around the other at more or less irregular intervals. Bouclés are a type of loop; ratinés, a derivation of the same classification; and nubs, a variety of flake yarn—to mention but a few of the better known types.

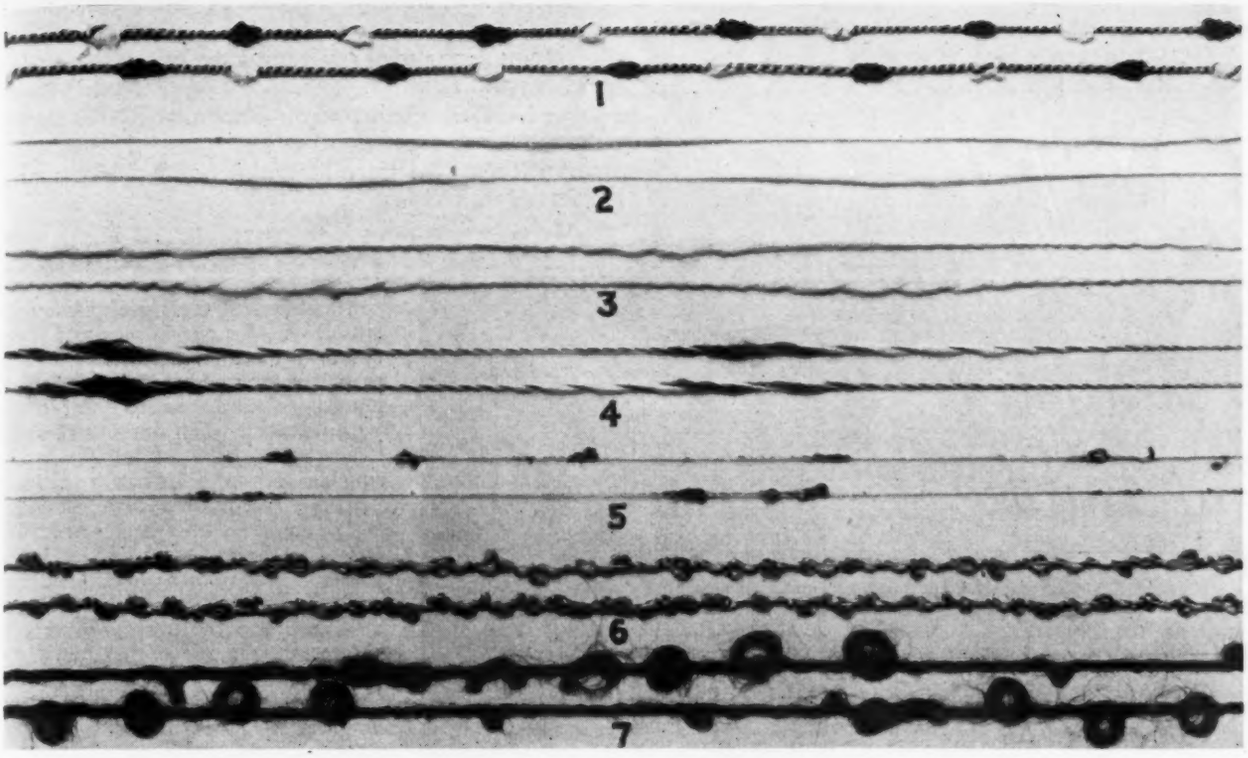
Take the various types of novelty yarns, add the possibility of combining any two, add the combinations offered by the many different textile fibers, add the possibility of using various sizes and plies, and then, as a last gesture, add the colors of the rainbow, and the result will be an amazing number of permutations and combinations.

Delivery Problem Difficult

It is this practically limitless field which gives to the manufacture and use of novelty yarns their greatest fascination, but it is this same factor which presents certain difficulties. Probably the greatest problem today is that of delivery. When, after a period of sampling and experimentation, the weaver or knitter hits on a fabric which sells, the natural desire is to get into production as rapidly as possible and get the goods out before demand turns fickle. However, in dealing with a made-to-order commodity such as novelty yarns, it is extremely difficult to deliver the bulk of an order within a very short time. The problem has apparently been worked out to best advantage where the user has realized that he has been justified in taking a certain amount of risk and, with a full knowledge of the spinners' problems, has anticipated as much as possible rather than tried to force the whole burden on the spinner.

The mutuality of interest between buyer and seller is strikingly evident in the relation between manufacturer and user of novelty yarns. It is almost impossible to determine in advance just what a fabric will look like when constructed with a certain yarn. The result is that there must be considerable fabrication of samples and experimentation. Further, where it is believed that a slight change in the yarn will produce a better effect, the manufacturer and user must work together to solve the problem, for even a slight change in the yarn will often produce a decided and unexpected result in the fabric. Incidentally, some of the best sellers have been the outcome of "accidents."

One of the technical difficulties which presents itself in the weaving of novelty yarns, particularly flakes, is the avoidance of certain "repeat" effects. Obviously, if four large lumps line up on four adjacent picks, the fabric will be distorted to such an extent that it will be useless. While the mathematical chances for such an occurrence may seem small, actuality puts the mathematics to flight. The road around the difficulty lies in decreasing the mathematical chances for such effects.



1. Cotton knot yarn. 2. Flake yarn. 3. Flake yarn with binder. 4. Cotton double-colored flake. 5. Silk noil and rayon confetti. 6. All-rayon ratiné. 7. Mohair bouclé yarn.

In the manufacture of the yarn this means changing the intervals between the novelty effects; that is, instead of having the flake effect repeated at regular intervals of, say, 3 in., the interval between the flakes is varied between 3 and 30 in. In weaving, the mathematical chances for repeat effects are decreased by using more than one shuttle where possible, the yarn on each shuttle having a different interval. The width of the cloth must also be taken into consideration, as well as the fact that careless piecing of ends may tend to regularize the carefully planned varied interval in the yarn. There are certain fabrics which depend on a regular interval in the yarn for their effect, but the general tendency in all novelty yarns has been to vary the interval so that a fabric can be produced which is uniformly ununiform.

Machines Require Many Attachments

Consideration of the problem of varying the interval in a yarn which already has a novelty effect gives an insight into the complicated machinery necessary. A fair proportion of the spinning frames and twisters used in the manufacture of novelty yarns have been made by rebuilding regular frames and adding attachments. Even where a novelty twister is purchased from the machine builder, the constant search for something new leads to the invention of this or that attachment.

On the spinning frame, novelty effects are generally secured by varying the draft, by devising special feeds from the creels, or by combining the two methods. Presuming that the spindle speed is constant, novelty effects are produced by changing the draft radically while the yarn is spinning. Spindle speed, front roll speed, draft, and feed are some of the variables which can be manipulated. To this list can be added devices for varying the manner in which the variables are controlled to produce irregular intervals.

The twisting frame, with its possibilities of combining different fibers and colors, offers a wider field than the spinning frame. If there are two sets of delivery rolls, one set can be stopped while the other continues to deliver, so that one ply is twisted around the other at one point, etc. Some novelty twisters have three sets of rolls for each spindle. The combinations made possible by manipulating the speed of the different sets of rolls are almost endless, to say nothing of utilizing a novelty single yarn as one of the plies in a novelty twist. As in the spinning frame, attachments have been devised which will vary the interval.

Certain types of yarns require steaming or boiling to set them, an example being a mohair bouclé. Where one of the plies has a novelty effect which almost precludes its having any tensile strength in the finished yarn, it is usual to use a strong two-ply yarn as the binder thread. Thus a binder thread is used on types of flake yarns which would not otherwise be strong enough to handle in weaving or knitting. The binder thread has the two-fold purpose of binding in the curls and adding strength to loop yarns.

There are many difficulties from the manufacturing standpoint in the novelty-yarn trade, and there are also difficulties in the weaving or knitting of such yarns; but they are difficulties which can be overcome by care and patience. Their manufacture calls for a high degree of inventiveness, knowledge, and a willingness to take some trouble along with the good breaks. Their use calls for much experimentation with samples, alertness, and the never-say-die spirit. As in every specialty line, the race is to the swift; but the reward for success is greater than in staple lines.

The field which seems to offer the best chances for novelty fabrics at this time is knitted women's wear, with woven apparel fabrics a close second, and with shoe fabrics as the dark horse. Drapery and upholstery fabrics have been in lessened demand.

Committee D-13 *Declared Indispensable to Industry and Public*

Prof. H. J. Ball, chairman of Committee D-13

IN A STIMULATING address delivered at the fall banquet in Washington, D. C., of Committee D-13, the textile committee of the American Society for Testing Materials, Captain D. B. Wainwright, Jr., assistant chief coordinator, U. S. Navy, explained the importance of the committee to the industry which it serves. It has, he declared, a "unique opportunity for great usefulness and a consequently grave responsibility to the American people for its undertaking." He pointed out that the textile industry requires an agency for the coordination of all interests in the prosecution of a standardization program and that "such a coordinating agency is provided, *and provided only*, by Committee D-13."

The banquet (at the Shoreham Hotel, Oct. 15) was but one activity of a busy meeting held mainly at the Bureau of Standards, Oct. 15 and 16. Various subcommittees met on Thursday morning and afternoon, among them two new ones—on rayon fabrics and silk fabrics, respectively.

The rayon-fabric subcommitee, under the chairmanship of Alexis Sommaripa, of Du Pont Rayon Co., New York, discussed mainly several proposed methods of testing for wet tensile strength. Methods were also proposed for testing the slipping of fabric texture and the pulling at seams.

The silk-fabric subcommittee, under the chairmanship of H. E. Bishop, of John Dunlop's Sons, Inc., New York, resolved to begin work on consumers' tests and to enlist additional cooperation from the silk industry.

The entire afternoon of Thursday was given over to a meeting of the subcommittee on physical-testing methods, under the chairmanship of William D. Appel, chief of textile section, Bureau of Standards. This committee is striving for uniformity in the wording of specifications and for elimination of unnecessary variations in methods. At the suggestion of David C. Scott, of Henry L. Scott Co., Providence, R. I., and Ephraim Freedman, R. H. Macy & Co., Inc., New York, it was proposed to drop the term "stress-strain" and adopt that of "load-elongation" in its place.

Dr. W. E. Emley, Bureau of Standards, acted as toastmaster at the banquet. Miss Ruth O'Brien, Bureau of Home Economics, welcomed the committee to Washington; and Prof. H. J. Ball, of Lowell Textile Institute, Lowell, Mass., chairman of Committee D-13, expressed the thanks of the members.

An abstract of Captain Wainwright's address, already referred to, follows:

The textile industry is the second largest in this country. Every man, woman, and child in the United States is a user of textiles and concerned with their usefulness and desirability. As purchasers and consumers they have two inalienable rights—they have the right to demand that the material shall be suitable for the purpose intended when purchased, and that it shall retain that suitability to a reasonable degree during a reasonable period. They buy service, not fabrics.

The manufacturer usually seems perfectly willing to let each individual consumer set any numerical value he chooses on the requirements in a specification. This attitude disregards several very patent advantages to the manufacturer resulting from the general use of standard specifications. With such specifications he is not compelled to supply for essentially the same purpose materials ordered to a variety of specifications that may differ by just enough to require separate production under each specification. He can avoid much excessive labor turnover, can prevent many large increases of overhead expense in relation to output, can frequently take advantage of favorable market conditions in purchasing raw materials, and in general can maintain the efficiency of his operations. He knows exactly what he is expected to furnish and how the material will be tested and inspected by the consumer, thus reducing to a minimum the possibility of misunderstandings. By thus standardizing the uniformity and reliability of materials, and thus eliminating unsatisfactory experiences of users, he checks the encroachment of materials from competitive industries. Last, but not least, he is provided with a defense against unfair competition by the unscrupulous within his own industry.

On the other hand, you will find that the consumer, particularly the larger one, usually feels that the specification which he himself has drawn up is entirely satisfactory and that there is nothing to be gained by making the slight changes which are necessary to make it agree with the specification being used by other consumers of the same material. Admitting that the use of the standard specification automatically eliminates minor sales talk, this loss is more than overbalanced by the benefits secured by the consumer. He benefits indirectly from the advantages of standardization to the producer. He can secure truly competitive prices on the same quality of material. Standard methods of test and inspection facilitate establishing a routine procedure for acceptance of material. When associated with quality labels, this will be of the greatest value to the small consumer. The greater uniformity and reliability of materials, and the fact that their properties are better understood, make possible their more economical use. The procedure of purchasing is simplified and standardized, a matter of great importance in large organizations.

Materials vs. Performance

The "materials" specification, as you know, describes in detail the materials to be used. It generally includes tests to be passed at time of purchase, but requires no future performance from the material. This type of specification is based on the theory that the purchaser knows the best design, materials and manufacturing practice for his needs;

that he has had satisfactory service from such before; and that he desires to purchase exactly the same thing again regardless of improvements. He would rather buy what he knows to be only fairly good, even at greater cost, than run the supposed risk of accepting something bad.

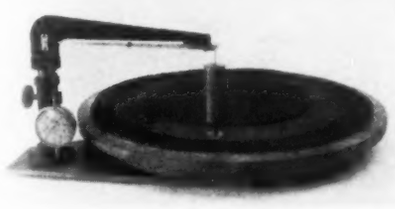
Periodic revisions of "materials" specifications are only a partial remedy for their defects; for no matter how frequently made, they are always lagging behind the art. To make proper revisions the purchaser would have to keep himself informed on all the advances of the art. This is impractical, and experience shows that he has not done so in the past.

A newer type of specification is the "performance" type. It is based on the principle that the product ought to pass tests which indicate the performance in service. To meet this kind of specification, the product must be capable of rendering a definite service, and by such tests the purchaser so assures himself. He is not concerned with the materials or the method of manufacture as long as the product accomplishes the desired results. The manufacturer, on the other hand, is left free to make the best product at the lowest cost to suit the service.

The "performance" specification is free from the objections to the "material" specification. While the "performance" specification fixes the lower limits of availability to render service, it does not in any way prevent or delay the making of better products. Improvements due to new materials and methods do not necessitate any revision whatever, for surely no one objects to getting something better than he demands.

In considering a program of standardization, it is necessary to survey the means of carrying it out. A picture of the organization of the industry is needed, and I must confess that the organization of the textile industry appears to me chaotic. I have learned that, first, there are a large number of national associations of textile manufacturers, divided on the basis of the fiber used and the material made. There are similarly a large number of associations representing the converters, finishers, bleachers, mercerizers, and dyers, many of whom have made some attempts at standardization. Second, the distributors are represented and, third, the consumers.

To date, however, the most important work in textile standardization has been done by the large individual retailers acting independently of the manufacturers and of each other. Macy, of New York City; Marshall-Field, of Chicago; and Filene, of Boston, are probably the outstanding leaders from the department-store standpoint. Chain stores, such as Montgomery Ward, Sears-Roebuck, and J. C. Penney, have also been very active. The Pullman Company and the Bell Telephone Laboratories should also be included in this group as contributing largely to the development of specifications for textiles. The groups mentioned do not provide a central point of contact where the several interests concerned can gather and make standard specifications for textiles.

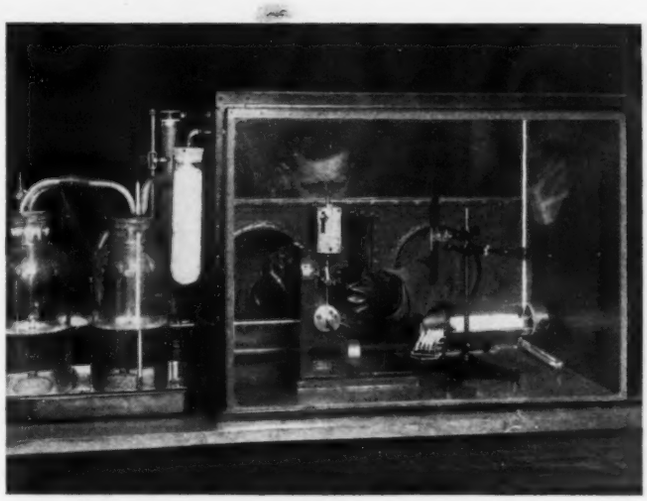


Thickness-measuring instrument recommended to D-13

The demand for consumer standards in all products will grow, and rightly so. A group of more intelligent buyers is being developed. This means, inevitably, protection not only for the purchaser, but for the honest manufacturer and the honest distributor.

What is needed is a new approach to the problem. Instead of being merely on the defensive against unsound plans, the textile industry should be on the offensive—and take the lead in development of standards which will really be helpful to the consumer and, consequently, to the ethical concern in industry and trade.

Beside a realization of the importance to its welfare of standardization, the textile industry requires an agency for the coordination of all interests in the prosecution of this program. Such a coordinating agency is provided, and provided only, by Committee D-13.



Constant-humidity testing cabinet explained to D-13

The committee is ideally constituted for the work, embracing as it does producers, consumers, and general interests. In the solution of textile problems, it has available the best engineering, scientific and technical talent. The ethical value of its work is assured by the caliber of its membership, the list of which is in effect an honor roll of the textile world.

General Meeting

The general meeting for the entire committee was held on Friday morning. Professor Ball urged that members suggest men able and willing to serve on the proposed woolen and worsted subcommittee. He announced that Prof. G. B. Haven, Massachusetts Institute of Technology, has consented to conduct bursting experiments for the knit-goods subcommittee.

Providence, R. I., was chosen as the place of the March, 1932, meeting of D-13. The following new members were announced: Southern Asbestos Co., Inc., Charlotte, N. C., represented by G. S. Fabel; G. E. Hopkins, Bigelow-Sanford Carpet Co., Inc., Thompsonville, Conn.; Pauline B. Mack, Pennsylvania State College; and H. F. Keeler, James Lees & Sons Co., Bridgeport, Pa.

Reports of subcommittees followed, the one on asbestos under the chairmanship of J. M. Weaver, Keasbey & Mattison Co., Ambler, Pa., winning especial approbation from Professor Ball for its thoroughness. Dr. Emley, reporting on thickness measurements, exhibited a dead-weight instrument which he recommended for consideration; and Dr. H. F. Schiefer, of the Bureau, demonstrated its operation. The subcommittee on definitions, under Dr. W. F. Edwards, U. S. Testing Co., New York, recommended that a distinction be made between "number" and "count," the former to refer to yarn and the latter to cloth—the term "size" being used only with reference to starching. Compilation of a new table of breaking strengths was recommended by R. H. Adams, of Cason J. Callaway Mills, Inc., La Grange, Ga., chairman of subcommittee on cotton yarns.

One paper was presented—by F. T. Carson, Bureau of Standards, on an interesting cabinet for inclosing apparatus for use in tests to be conducted under standard atmospheric conditions. In the accompanying photograph the interior of the cabinet may be seen through a glass window. The operator reaches the testing apparatus by means of rubber gloves and sleeves attached to large armholes in the front wall of the cabinet. The air-conditioning equipment is shown at left.

Index Numbers *for* *Evenness Evaluation in Raw Silk Grading*

By Warren P. Seem

Julius Kayser & Co., Brooklyn, N. Y.

◆*In an article entitled "Nine-Meter Sizings as a Measurement of Evenness," which appeared in our issues of May 2 and 9, Mr. Seem described a simple and accurate method of measuring the important evenness factor. Since then he has carried his studies still further, and now presents his latest findings. Although the method has been primarily developed for raw and thrown silk, it is likely that it is applicable to spun silk, rayon, and cotton, and to comparisons between different textile materials.*

THE purpose of a number to index evenness, called percentage, is to determine a relative evaluation on a common basis with other characteristics comprising a composite grading of raw silk; to grade evenness into levels or grades that are within the scope of practical application; and to fix the differentials between the grades.

It is of the utmost importance that the evenness evaluation have a definite relation between raw silk of various sizes and the evenness of woven and knit fabric. As this knowledge is acquired through extensive researches and is different on various products, the index number should be definitely determined and remain fixed so as to become the "foot rule" for evenness.

The percentage number on the seriplane standards and those used to classify the silk into grades are arbitrary numbers representing an assumed relative value and represent the best judgment of the classification committees.

The figures have been subject to a number of changes; and we now find different percentages representing the same grade, causing a confusion as to the real evenness value of the silk.

The weighing of nine meters as an evenness test, as explained in our nine-meter study, published in the May 2 and 9 issues of TEXTILE WORLD, presents a method that enables one to calculate the percentage by a mathematical rule that has a direct relation from single to multiple thread and fabric.

The problem of finding a relative index number by the nine-meter method consists of taking the raw-silk thread with a more-or-less circular cross-section that is not in direct relation to its count or denier but in proportion to the area of a cross-section, which in turn is proportional to the square of the diameter.

The rule used in developing the test consists of converting deniers to diameters in microns, finding the number of microns deviating from the average size, squaring these deviations, and from the sum of the squarred deviations determining the relation to the average size, as shown in Table I.

A further application of this rule to the lowest grades of raw silk developed the fact that the percentage on the most uneven silk was found to be 113.5%. This rating is impractical, as no silk fabric or raw silk can be 100% uneven, and a revision of the rule is indicated. A picture of the most uneven fabric, not a cross-section, is possibly near 40% uneven.

As the evenness percentage is used with the percentages of cleanness, neatness, etc., to evaluate a composite grading, it is expedient to limit the spread of the percentages between the best and worst characteristics in a grade. In the case of characteristics other than evenness, the percentage rating is a case of increasing or decreasing the penalty. With evenness, however, there are natural laws governing the relation between the evenness of raw silk on single and multiple thread and fabrics which must be observed to maintain the relation between the raw-silk tests and the evenness of the product.

To meet this situation, it is necessary to change the rule given in the nine-meter study published in May, 1931, to the following method.

In the original method the average size is converted to microns; and the base, upon which the percentage is

TABLE I. FORM — NINE-METER SIZINGS

Size Deniers	Number Skeins	(1 x 2) Total Deniers	Diameter in Microns	Deviation of Diameter Squared	(2 x 5) Total Squared Deviations Each Size
6	...	.....	36	..	.....
7	...	.....	39	..	.....
8	...	.....	42	..	.....
9	...	.....	44	..	.....
10	2	20	47	64	128
11	8	88	49	36	288
12	30	360	51	16	480
13	38	494	53	4	152
14	46	644	55	..	.....
15	46	690	57	4	184
16	29	464	69	16	464
17	1	17	61	36	36
18	...	.....	63	..	.....
19	...	.....	64	..	.....
20	...	.....	66	..	.....
21	...	.....	68	..	.....
22	...	.....	70	..	.....
Sum...	200	2,777	..	..	1,732

Average size $\frac{2,777}{200} = 13.87$ denier.

Total microns (use nearest whole number to average size, or 14 denier) — 55 microns x 200 skeins = 11,000 microns.

The unevenness is found by dividing the sum of the squared deviation, or 1,732, by the total microns, thus:

$$\frac{1,732 \times 100}{11,000} = 15.7\%$$

The evenness is found by subtracting 15.7% from 100, or 84.3% evenness.

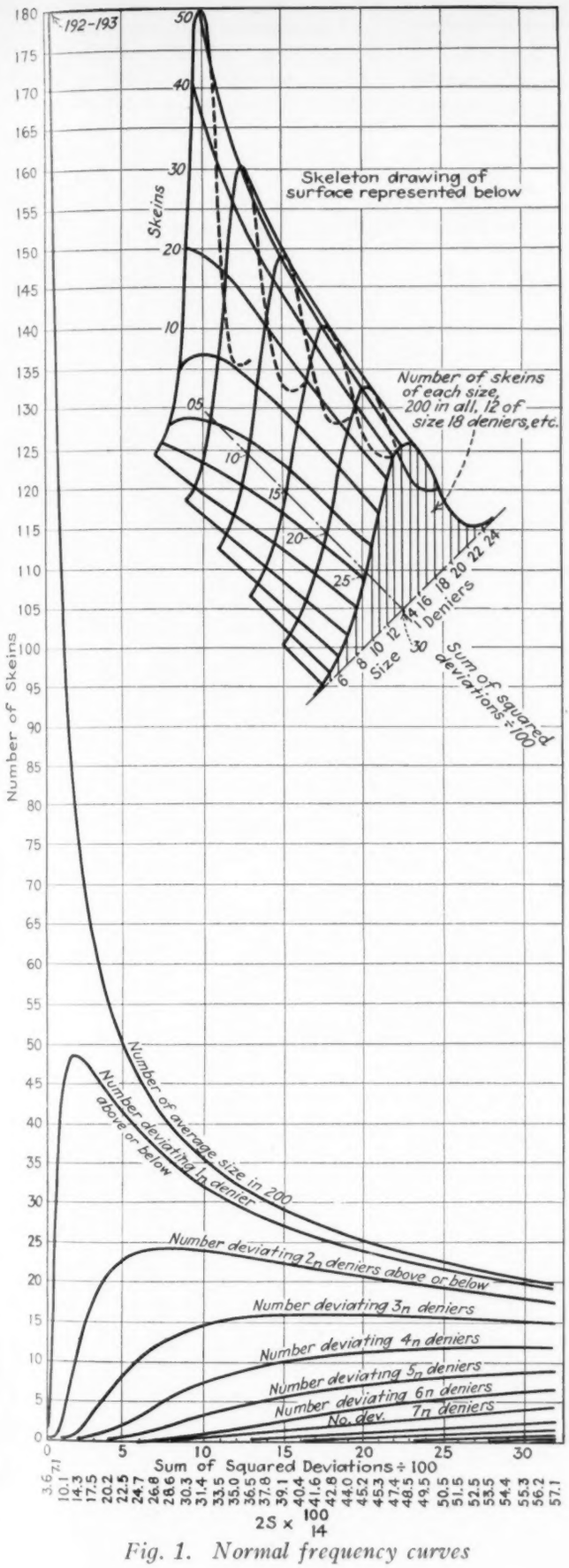

192-193
Skeleton drawing of surface represented below
Skeins
Number of skeins of each size, 200 in all, 12 of size 18 deniers, etc.
Deniers
Size
Sum of squared deviations ÷ 100
Number of Skeins
Number of average size in 200
Number deviating 1n denier above or below
Number deviating 2n deniers above or below
Number deviating 3n deniers
Number deviating 4n deniers
Number deviating 5n deniers
Number deviating 6n deniers
No. dev. 7n deniers
Sum of Squared Deviations ÷ 100
25 × 100 / 14

Fig. 1. Normal frequency curves

determined is found by multiplying the total number of skeins in test by the average microns, thus:

Average microns, 55; total number of nine-meter sizings, 200; $55 \times 200 = 11{,}000$ microns.

The total deviation in microns is found by subtracting the various sizes in microns from the average microns, squaring the difference and multiplying the squared deviation by the number of sizing skeins of each size. The total squared deviation is the sum of the product of the squared deviation of all sizes, as shown in Table I. In squaring the microns deviating from the average size, the ratio is changed between the base and the actual deviation; and this causes the percentage to exceed 100% on the lowest grades of silk.

In the new method this is corrected with a supplementary factor determined as follows:

In Table I the total squared microns is 1,732. The total number of skeins is 200. The squared deviation from the average size per skein in microns is found by dividing the total squared microns by 200, thus: $\frac{1{,}732}{200} = 8.66$ microns.

Adding 8.66 microns to the average size in microns, we have $8.66 + 55$, or 63.66, average corrected microns. The basis for the percentage calculating is found by multiplying the total number of skeins (200) by the average corrected microns 63.66, or 12,732 microns. The unevenness is found by dividing the sum of the squared deviation $1{,}732 \times 100$ by the total corrected microns 12,732, or $\frac{1{,}732 \times 100}{12{,}732} = 13.6\%$.

The evenness is found by subtracting 13.6% from 100% or 86.4% evenness.

This method is simplified by adding the total squared deviation to the total microns in the test, based on average size, or $1{,}732 + 11{,}000 = 12{,}732$.

The difference in percentage between the two methods is shown when applied to Rosenzweig's ten evenness grades given in *Serivalor*, as follows:

S°	Old Method %	New Method %
1	84.3	86.4
2	77.3	81.5
3	68.7	76.3
4	60.7	71.8
5	50.1	66.7
6	41.7	63.2
7	27.0	57.8
8	14.0	53.9
9	0.0	49.9
10	−13.5	46.8

To conform with the new method of sampling adopted by the Japanese and American Classification Committee, 50 skeins are sampled and two windings are made from each skein. A test consists of 250 skeins, instead of 200 as given in these studies. On ten bales two 250-skein units are used.

On page 78 of the May 2 issue of TEXTILE WORLD we gave a table of the evenness to be expected on multiple threads. As this table is affected by the new method of calculating evenness, we submit revised Table II.

To Calculate 20% Unevenness

To compute the revised evenness to be expected, fourteen deniers was assumed as the average size, which, according to Table A, is 55 microns. In the test of 200 skeins there is a total of 200×55, or 11,000, microns. An 80% raw silk is 20% uneven and has a deviation of $\frac{1}{5}$ of 11,000, or 2,200 microns; but, as the squaring changes the ratio between the true deviation and the average size, this correction must be compensated for in this calculation. By the new method one does not get 80% evenness, but 83.34%; thus, $200 \times 55 + 2{,}200 = 13{,}200$.

$\frac{2{,}200 \times 100}{13{,}200} = 16.66\%$ and $100\% - 16.66\% = 83.34\%$.

To arrive at the percentage to calculate a 20% un-

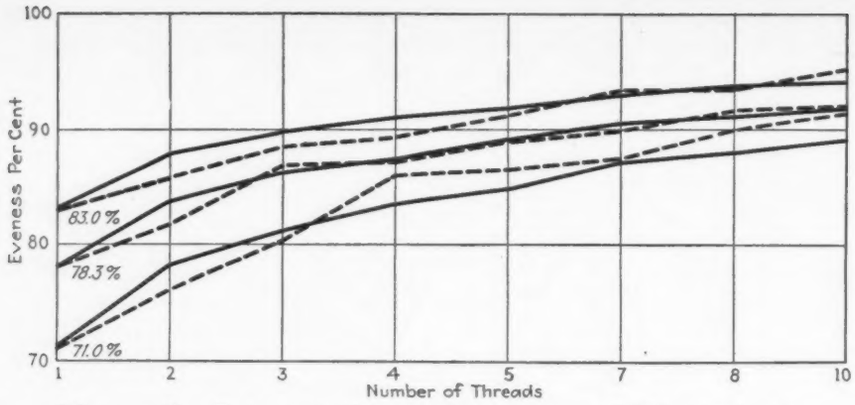


Diagram C. Represents three grades, averages of 100 actual tests. Heavy solid line represents theoretical Table II; and broken line, actual test. (Diagrams A and B appear on page 31, TEXTILE WORLD, *May 9, 1931)*

evenness, the following rule is used:

$100 - 20 = 80$. $20 \div 80 = 25\%$. $25 \times 11{,}000 = 2{,}750$ microns.

We have $2{,}750 + 11{,}000 = 13{,}700$

and $\dfrac{2{,}750 \times 100}{13{,}750} = 20\%$. $100 - 20 = 80\%$.

Studies were made on actual nine-meter sizings on from two- to 10-thread using the same sample skeins as were used in the raw test. The results are given in Diagram C. The heavy solid line is the theoretical; the broken line gives the actual test.

The nine-meter study, together with this article on index number, was given to Prof. Thurman Andrew for study to determine whether the proposed method conformed with mathematical laws and could be recommended to the trade as an effectual method for classifying evenness. His finding is presented herewith:

I have carefully considered your two methods of finding the percentage of unevenness. The main difficulty is lack of an exact definition of unevenness. If unevenness could be exactly defined, then a formula could be found. When this cannot be done, the next best thing is to find a formula that gives satisfactory results, or the best that can be obtained.

The most obvious fault of your old method is that for the poorest grade the unevenness is more than 100%. In your new method the fact that the sum of the squared deviations is added to the denominator of the fraction makes it impossible to reach 100% unevenness. This is as it should be. If this last formula is found to be suitable, it could be taken as the definition by the formula or as the formula determined by the definition.

Your new method seems to meet the tests of utility, in that the range of unevenness seems reasonable, the extreme sizes are penalized by squaring the deviations, and the work computation is not difficult.

Your results are not much different from those found by use of the standard deviation of the weights in deniers; i.e.,

$$\sqrt{\frac{\text{sum of squared deviations}}{\text{number skeins}}} \times \frac{100}{14}$$

The results for Rosenzweig's ten grades are given beside those of your new method.

S°	Standard Deviation Method	Your New Method
1	79	86
2	75	82
3	71	76
4	67	72
5	63	67
6	59	63
7	55	58
8	51	54
9	47	50
10	43	47

The standard deviation method fits in perfectly with the standard normal frequency formula, and from all appearances silk fits this formula closely. Without an exact definition of unevenness it seems impossible to do other than adopt a formula purely from the standpoint of utility.

Comparative studies on the degree of evenness found in hosiery, knit fabric, and rayon indicate that the range in evenness given in Table II on multiple threads represents the evenness more accurately than does Table III; and the new method of calculating evenness is proposed from a standpoint of utility, instead of the standard deviation method.

Prof. Thurman Andrew offers a treatise on unevenness of raw silk:

It is common knowledge that silk varies in size and that this variation causes more or less streaks in the finished goods. It is also well known that a greater variation in the size of the raw silk causes a greater number of streaks in the goods. The amount of variation is usually called unevenness, but unevenness has never been defined accurately enough to establish a proper standard for classification.

When a large number of sample skeins are weighed and the results are plotted, the curve is, practically, the normal frequency or probability curve. Rosenzweig, Higo, and others have made use of this fact in their work in silk sampling. The numbers arising from the silk tests are little different from numbers arising from measurements in general, from throwing dice, and from many cases of chance. There seems to be no reason, then, why the normal-frequency formula may not be applied to silk tests. The sharpness or flatness of the curve is determined by the sum of the

TABLE II. EVENNESS TO BE EXPECTED ON MULTIPLE THREADS

Raw Silk %	Multiple Threads 2	3	4	5	6	7	8	9	10
90	92.8	94.0	94.8	95.3	95.7	96.0	96.3	96.5	96.6
85	89.1	90.8	92.0	92.8	93.4	93.8	94.2	94.5	94.8
80	85.2	87.4	89.0	90.0	90.8	91.5	91.9	92.4	92.8
75	81.2	83.8	85.8	87.1	88.1	88.9	89.6	90.1	90.6
70	77.0	80.0	82.0	84.0	85.2	86.2	86.9	87.6	88.2
65	72.8	76.3	79.0	81.8	82.2	83.3	84.2	84.5	85.6
60	68.4	72.2	75.2	77.3	78.8	80.1	81.1	82.0	82.8
55	63.7	67.9	71.2	73.4	75.1	76.6	77.7	78.8	79.6
50	59.0	63.4	66.9	69.3	71.2	72.8	74.1	75.2	76.2

TABLE III. TABLE OF MULTIPLE THREADS USING STANDARD DEVIATION METHOD

Raw Silk %	Multiple Threads 2	3	4	5	6	7	8	9	10
90	92.9	94.2	95.0	95.5	95.9	96.2	96.6	96.7	96.8
85	89.4	91.4	92.5	93.3	93.8	94.3	94.7	95.0	95.2
80	85.9	88.5	90.0	91.1	91.8	92.5	92.9	93.3	93.7
75	82,3	85.6	87.5	88.8	89.8	90.6	91.2	91.6	92.2
70	78.8	82.7	85.0	86.6	87.8	88.7	89.4	90.0	90.6
65	75.2	79.9	82.5	84.4	85.7	86.8	87.7	88.4	89.0
60	71.7	77.0	80.0	82.2	83.7	84.9	85.9	86.7	87.4
55	68.1	74.0	77.5	79.8	81.6	83.0	84.1	85.0	85.8
50	64.6	71.1	75.0	77.6	79.6	81.1	82.3	83.4	84.2

IV. BASED ON TEST NO. 8886

Size Deniers	No. Skeins First 200 Test 8896A	No. Skeins First 200 Test 8896B	No. Skeins Average 200 4,000 Skeins	No. Skeins Calculated by Use of Normal-Frequency Formula. First 200. Test 8896A	Test 8896B
8	3	0	1	0	0
9	0	0	3	2	2
10	5	1	6	6	4
11	21	2	14	14	12
12	7	14	20	24	24
13	27	27	33	34	37
14	41	35	38	39	42
15	49	42	40	34	37
16	21	52	25	24	24
17	21	17	12	14	12
18	5	9	6	6	4
19	0	0	1	2	2
20	0	1	1	1	0
Totals.....	200	200	200	200	200

squared deviations from the average. The larger sum also indicates the greater unevenness of the silk and the more streaks in the finished goods.

If a limited number of samples, say 200, are weighed, the ratios of the numbers of various sizes will not accurately represent the ratios of the numbers of the various sizes in the whole bale. By chance, some of the sizes will have a representation too large, while other sizes will have a representation too small. That is the reason two independent groups of 200 samples each, taken from the same bale, will never have the same ratios. However, the normal frequency curves based on the two groups of samples will generally be very nearly alike. This is because the curve represents a kind of average of the group of 200 skeins, and this average is more nearly representative of the whole bale. Table IV should make this statement clear. This table is based on Mr. Seem's test No. 8896. Column 1 gives the size in deniers, and column 2 gives the number of skeins of each size as found by Mr. Seem in the first 200 skeins of test No. 8896A. The third column gives the same for the first 200 skeins of test No. 8896B. The fourth column gives the number of skeins of each size for the average 200 of the whole 4,000 skeins. The fifth column gives the calculated number of skeins of each size based on the first 200 samples of test No. 8896A. The sixth gives the same based on the first 200 samples of test No. 8896B.

It is clear that in the last two columns the calculated values based on the normal-frequency curves are much more representative and more like the results of the 4,000 samples than are the values of the 200 samples of columns 2 and 3.

Since the calculations are somewhat difficult, it seemed desirable to work out a number of cases and use these for the purpose of comparison. For this purpose, Fig. 1 was constructed. This figure represents an infinite number of normal-frequency curves turned 90° about on the vertical axis. The sum of the squared deviations varies from 0 to 3,200. The number of samples represented is 200 in each case. The number of skeins is read on the vertical scale, while the sum of the squared deviations is read on the horizontal scale at the bottom of the figure. The vertical distance, measured from the bottom of the figure to a point on the top curve, gives the normal number of average-sized threads in a group of 200 for any value of the sum of the squared deviations. The second curve from the top is used to find the normal number of skeins deviating, from the average, 1 denier for raw silk, 2 deniers for double, 3 deniers for triple, and n deniers for n threads. The other curves are used to find the normal number of skeins deviating, from the average, any number of deniers as indicated.

As an example of the use of the figure, consider the first 200 skins of Mr. Seem's test No. 8896A, as given in Table V. Letter F is the frequency or number of skeins of each size, d is the deviation in deniers from the average, d^2 is the square of d, and Fd^2 is the product of F and d^2. The average size is fourteen.

TABLE V. FIRST 200 SKEINS OF TEST NO 8896A

Size Deniers	F	d	d^2	Fd^2
8	3	6	36	108
9	0	5	25	0
10	5	4	16	80
11	21	3	9	189
12	7	2	4	28
13	27	1	1	27
14	41	0	0	0
15	49	1	1	49
16	21	2	4	84
17	21	3	9	189
18	5	4	16	80
19	0	5	25	0
Totals	200			834

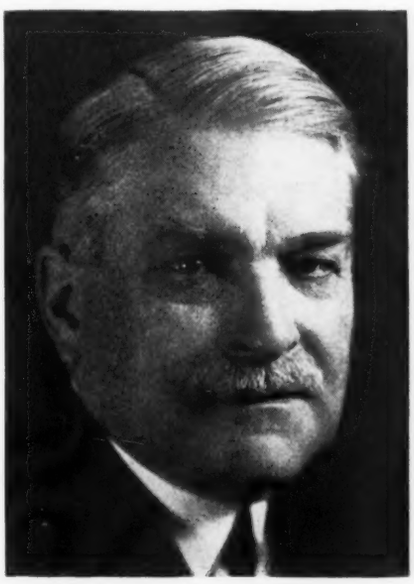
The sum of the squared deviations is, here, 834. Use 8.34 in Fig. 1, since all of the sums of the squared deviations are there divided by 100. The figure 8.34 falls about one-third of the way from 8 to 9 at the bottom of Fig. 1. Following up vertically from this point to a point on the top curve and reading the vertical scale, the number of the average-sized skeins is found to be approximately 39. On the second curve from the top is found 34½ skeins deviating one denier below the average, and 34½ skeins deviating one denier above the average. In the *(continued on page 45)*

S. W. Stratton, Head of Textile Research Institute, Dies

SAMUEL WESLEY STRATTON, president of the United States Institute for Textile Research, Inc., and chairman of the corporation of Massachusetts Institute of Technology, died suddenly at his home in Boston, Mass., Oct. 18, while dictating a statement concerning the death of his friend and fellow scientist Thomas A. Edison. Dr. Stratton was born in Litchfield, Ill., July 18, 1861, and received the degree of B.S. in mechanical engineering from University of Illinois in 1884. He taught in the department of physics at Illinois until 1892 when he transferred to the University of Chicago.

In 1901 he became director of the United States Bureau of Standards. Dr. Stratton was president of M.I.T. from 1923 until 1930 when he became chairman of the corporation.

It was as director of the Bureau of Standards that Dr. Stratton first became interested in textile research, particularly during the war period when considerable of the bureau's work concerned textiles. Later at M.I.T. he was instrumental in building up the division of industrial cooperation and research which has been active in textile lines. Dr. Stratton was a firm believer in the continuing need for research in the textile field and, on Nov. 6, 1931, he accepted the presidency of the newly formed United States Institute for Textile Research, Inc., and one of his last official acts was to attend a meeting of the institute's directors, on Oct. 5, when he expressed himself as gratified with the progress and future program of the organization. The president's duties now descend to Thomas T. Clark, Talbot Mills, vice-president of the institute, until election is held.



Dr. S. W. Stratton, President, U. S. Institute for Textile Research

Dr. Stratton was confident that research in the textile field would become an increasingly important factor and indications are that he envisaged M.I.T. as one of the important centers, both so far as actual laboratory work is concerned and as a source of supply for trained workers. The industry was fortunate in having the services of a man with such broad interests and one so high in scientific circles.

Dr. Stratton was a member of the following scientific and engineering societies: National Academy of Science, National Research Council, American Philosophical Society, American Association for the Advancement of Science, Washington Academy of Sciences, American Society of Mechanical Engineers, American Society for Testing Materials, National Aeronautical Association of U.S.A., American Physical Society, Optical Society of America and a member of the American Engineering Standards committee. He was a member of the Cosmos and Army and Navy clubs of Washington, and the Union, Tavern and Algonquin clubs of Boston. He was the recipient of honorary degrees from the Univ. of Illinois, the Univ. of Pittsburgh, Univ. of Cambridge, England, and Yale University.

Dr. Stratton, a batchelor, is survived by three sisters.

Proper Emulsions and Settings Eliminate Neps in Woolen Carding

By Richard Jackson

ONE of the most important jobs of the carder is preventing the formation of neps in carding and getting rid of those formed in earlier operations. With wool under 56s quality there is not a great deal of difficulty; but with finer sorts, setting, stripping, and grinding must be forever taking place. When the carder receives badly matted wool, his skill is severely tested; but the more consistent his application to their removal, the more competent will he become as a carder.

The application of a good oil will assist greatly in the carding out of neppy material; also, a greater quantity of water should generally be applied. The oil is made in the form of an emulsion, and one which is satisfactory is composed as follows: 10 lb. of oil, 20 lb. of water, and 2 oz. of ammonia. About 9 lb. of emulsion may be used to each 30 lb. of wool.

For work of this kind the carder needs machines with plenty of carding surface, and it is necessary to feed the machine as lightly as possible and to deliver to a ring doffer. A suitable set of machines consists of a breaker with breasts and two cylinders, an intermediate with two cylinders, and a finisher with breast and one cylinder.

Alterations in the feed are obtained by changing the scale-pan lever weight; but to reduce the weight of material fed to this machine, it is better to make the change at the feed pinion, which gives a slower speed to the feed rollers. In this way, full advantage is taken of the carding power between feed roller and licker-in, which is of considerable importance. In using gages for setting, it is very important that the bearings of the feed roller are not worn, as the desired setting will not be maintained; and this may cause the top feed roller to make contact with the feed stripper, which will damage the points of both rollers. The licker-in is Garnett-wire covered and revolves at the usual speed.

Card Clothing

The card clothing for the various rollers is similar to that used for fine wool carding. The clothing should be tightly wound on the rollers. This is very necessary for all cylinders, workers, and doffers, as the setting cannot be obtained if the wire is slack on the rollers. A newly covered breast will not card so well as one with a needle-pointed wire. This point cannot be obtained by grinding; but if the fancy has an open setting of wire and is run well into the breast, a fine needle point will be developed. If the fancy wires are closely set, they do not enter the cylinder, but brush across the points of the wires, which flattens them, making it impossible to get a needle point.

The speed of the breast remains the same, but that of the breast doffer and workers is increased from 10 to 18 r.p.m. On making this alteration it is found that the material is delivered in a better condition to the first cylinder. The breast does not carry so much material, and the carding points are kept clear. When the doffer speed is increased, the speed of the feed rollers and feed sheet are also increased; and it is therefore necessary to make a change at the feed gear in order to keep the speed of the feed rollers the same as before.

The speeds of the remaining cylinder, workers, and doffer on the breaker are the same as for ordinary work; but the gage settings are as shown in Table 1. Intermediate card settings are shown in Table 2.

The licker-in of the finisher card is only 5 in. in diameter, and a turnover is introduced. The turnover is 9 in. in diameter, and is located between the licker-in and the breast cylinder. The setting on each side of the turnover is made with a 30s gage. The first and third workers on the last cylinder are given a traverse motion of $\frac{1}{2}$ in. to distribute the excess material across the surface of the cylinder. The single-ring doffer is 36 in. in diameter and is covered with 145/14 clothing. The width of the rings is $\frac{3}{4}$ in. with $\frac{5}{16}$ in. space.

The gage settings for the finisher are shown in Table 3.

The speed of the ring doffer varies according to the counts of the condensed sliver, but in dealing with neppy material the speed should not be increased for heavy counts because this will increase the load of the wool on the machine. The stripper roller is set with a 35 gage tight to the doffer.

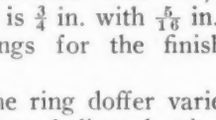


Table 1—Breaker Card Settings

	Gage No.
Strippers to cylinder	24
Breast workers to breast—Angle strippers to first cylinder—Strippers to second cylinder—Strippers to cylinder	24 tight
Breast doffer to breast—First worker to first cylinder—Angle stripper to second cylinder	26 easy
Second worker to first cylinder	26
Third and fourth workers to first cylinder—First worker to second cylinder	30 easy
Breast workers to strippers—Workers to strippers (first cylinder)—Doffer to cylinder—Second worker to second cylinder	30
Angle stripper to doffer—Third and fourth workers to second cylinder	30 tight
Doffer to second cylinder	32 easy

Table 2—Intermediate Card Settings

Angle stripper to first cylinder—Strippers to first cylinder—Angle stripper to second cylinder—Strippers to second cylinder	26
First worker to first cylinder	30 easy
Second worker to first cylinder	30
Third and fourth workers to first cylinder—First worker to second cylinder	30 tight
Second worker to second cylinder	32 easy
Doffer to first cylinder—Angle stripper to doffer—Third and fourth workers to second cylind r—Doffer to second cylinder	32
Workers to strippers (first cylinder)—Workers to strippers (second cylinder)	32 tight

Table 3—Finisher Card Settings

Breast workers to breast	30 tight
Breast workers to strippers	26
Angle stripper to doffer	35 easy
Angle stripper to cylinder	26
First and second workers to cylinder	32 easy
Third and fourth workers to cylinder	32
Workers to strippers	32 tight
Strippers to workers	26
Ring doffer to cylinder	32

S.T.A. Master Mechanics *Meet at Gastonia For Discussion*

INTERESTING discussions on problems relating to steam power plants, the maintenance of electrical equipment and recent developments in machine shop practice featured the fall meeting of the Master Mechanics Section of the Southern Textile Association held at Memorial Hall, Gastonia, N. C., Oct. 16. More than 100 members and visitors registered for the meeting which was in charge of E. P. McWhirter, of Monarch Mills, Union, S. C., chairman of the section.

The discussion on steam problems was led by H. H. Iler, mechanical engineer, Union Bleachery, Greenville, S. C. The consensus of opinion was that in spinning and weaving mills the heating system should be operated over the week-end to maintain a reasonable temperature during cold weather. F. E. Jones, master mechanic, Victor-Monaghan Co., Greer, S. C., stated that the temperature should not be allowed to fall below 65° F. in the spinning room nor under 75° F. in the weave room. Extremely low temperature was said to cause card clothing to contract and become loose, to cause steel rollers to become sticky and result in trouble in the spinning room, and to cause oil wells to become gummy. In addition, the power consumption in starting up the mill on Monday morning is found to be considerably greater if the various departments are allowed to become very cold during the week-end shut-down. Several members were of the opinion that fuel consumption would be smaller if the boilers were fired over the week-end to provide sufficient heat in the plant instead of allowing the fire to die.

Several methods of returning condensate from steam heating system and process machinery back to the boilers were described. C. A. Spencer, steam power engineer, Union Bleachery, Greenville, S. C., stated that in his plant all returns from coils, traps and unit heaters are carried to a condensate tank, after which the condensate goes through a feed-water heater to the boiler.

E. Edmiston, master mechanic, Mooresville (N. C.) Cotton Mills, explained the system employed by his mill, in which all condensate is carried back to a hot well. Make-up water is pumped in this hot well and later is carried through an open heater, going into the boiler at about 212 F. Some trouble had been experienced from steam in the suction line, but this was eliminated by raising the heater about four feet above the pump.

Chairman Iler called for a show of hands on the method used for checking coal consumption. Ten members indicated that they actually weigh the amount of coal used, while six members reported that they measure the fuel in a container of some kind. However, three of those measuring coal in containers expressed the opinion that their mills would be justified in spending the money necessary to install weighing equipment.

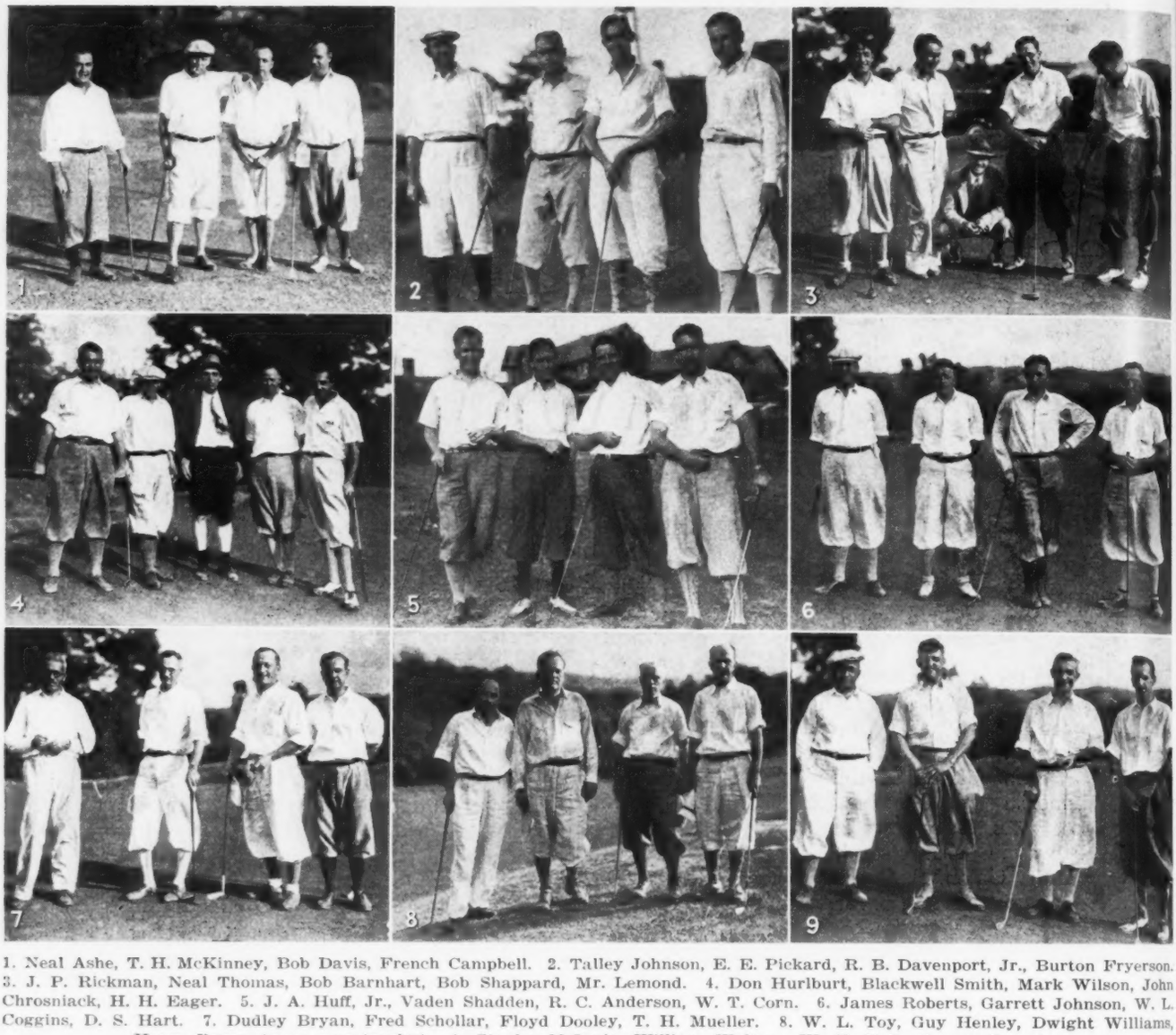
The discussion on electrical equipment was led by Chairman E. P. McWhirter. The presence of moisture in the air lines was said to be the greatest objection to cleaning motors with compressed air. Mr. Iler stated that the force of the compressed air jet will sometimes blow off particles of the winding insulation. Another member declared that compressed air should not be used for cleaning motors unless the system has a sufficiently large receiving tank and a separator in the line to remove moisture and oil from the line. Mr. Iler stated that filters on the intake of the compressor are quite satisfactory. From 75 to 90 lbs. pressure was considered proper for cleaning motors.

Although it was agreed that no lightning arrester has yet been found which is absolutely sure to prevent lightning from coming in on 2,000-volt motors, existing types of arresters were said to afford considerable protection and to be entirely worthwhile. Particular care should be exercised to see that all lightning arresters are properly and adequately grounded and they should be inspected every season.

The majority of members present were of the opinion that one or more men should be responsible for oiling motors and that this work should not be left under the supervision of the various overseers but should be under the jurisdiction of the mechanical department. Air gaps were generally gaged about every week or ten days on large motors and about every 30 days on smaller motors which are more difficult to gage. One member stated that the records of a motor repair company showed the causes of motor failures as follows: bearing failures (55%), single phasing (20%), and old age, damage by lightning, etc. (25%).

R. E. West, master mechanic, Arcadia Mills, Spartanburg, S. C., was in charge of the discussion on machine shop practice. V. H. Hoagland, southern representative of the Crucible Steel Corp. of America, Atlanta, Ga., in an interesting talk on steel, said that cold rolled steel is not suitable for making studs, but is intended primarily for shafting. He recommended for studs a steel containing about 35 to 40% carbon and 1.50% to 1.88% manganese. He stated that some 33 different grades of steel are used by textile mills in his territory.

The machinery manufacturers and mill supply concerns of Gaston County entertained the master mechanics and other visitors at luncheon in the Masonic Temple, of Addresses were made by Mayor George B. Denny, of Gastonia, and W. H. Sanders, a prominent attorney. Marshall Dilling, superintendent, A. M. Smyre Mfg. Co., chairman of the local committee on arrangements, acted as toastmaster at the luncheon. During the afternoon visiting master mechanics and engineers had the opportunity of inspecting the many machine shops and foundries in the Gastonia area. Spartanburg, S. C., was selected as the place of the next meeting of the section.



1. Neal Ashe, T. H. McKinney, Bob Davis, French Campbell. 2. Talley Johnson, E. E. Pickard, R. B. Davenport, Jr., Burton Fryerson. 3. J. P. Rickman, Neal Thomas, Bob Barnhart, Bob Shappard, Mr. Lemond. 4. Don Hurlburt, Blackwell Smith, Mark Wilson, John Chrosniack, H. H. Eager. 5. J. A. Huff, Jr., Vaden Shadden, R. C. Anderson, W. T. Corn. 6. James Roberts, Garrett Johnson, W. L. Coggins, D. S. Hart. 7. Dudley Bryan, Fred Schollar, Floyd Dooley, T. H. Mueller. 8. W. L. Toy, Guy Henley, Dwight Williams, Henry Bryan (runner-up trophy). 9. Stanley McInnis, William Walters, W. T. Bell, George Rounds

Seventh Annual Textile Golf at Chattanooga

ROBERT BAKER, Greensboro, N. C., carried off low score honors at the seventh annual Bob Smith (handicap) golf tournament held by the Chattanooga Textile Association, at the Chattanooga Golf and Country Club, Oct. 15 and 16. Announcement of awards was made by Guy Henley, Chattanooga.

Mr. Baker's net score for the 36 holes was 134. The coveted Bob Smith trophy was awarded to William Murphy, Chattanooga. His score was 137, Henry Bryan, who has previously won the trophy, registering the same score. Mr. Bryan was awarded the runner-up trophy given by Mrs. Bob Smith.

Only members of the Chattanooga Textile Association are eligible for the Smith trophy, which was provided by the late Bob Smith, former president of Smith, Drum & Co., Philadelphia, one of the founders of the local tournament. The trophy is played for each year.

The seventh annual tournament attracted men from practically all of the textile centers of the country to Chattanooga. About 100 participated in the play. The tournament was in charge of a committee headed by Henry Bryan. Trophies were awarded just before a buffet supper, the final feature of the tournament.

Visitors were enthusiastic in their praise of the outing this year and are looking forward to their return to the beautiful golf course again next year.

Chattanooga is the mecca for textile golfers twice each year. In the spring the Chattanooga Yarn Association entertains with an outing, which is followed in the fall by textile association tournament.

The low score prize was given by John Lovell, Chattanooga. Beside the low score and Smith trophies winners, other winners, their scores and the donors of the prizes follow:

William Sylvester, Decatur, Ala., 135, prize given by Tubize Chatillon Corp.; Scott Probasco, Chattanooga, 136, Scott & Williams, Inc.; Dave Blevins, Chattanooga, 137, American Glanzstoff Corp.; V. C. Shadden, Chattanooga, 137, H. Brinton & Co.; Garrett Johnson, Chattanooga, 140, Atlas Paper Box Co.; George West, Chattanooga, 140, Torrington Co.; J. P. Rickman, 142, Paramount Textile Machine Co.; R. P. Shappard, Griffin, Ga., 142, Scott Probasco; H. T. Robinson, Chattanooga, 142, Quaker City Chemical Co.; Charles Hall, Chattanooga, 142, Mark K. Wilson Co.; and Clyde Wilkins, Chattanooga, 143, Laconia Needle Co.

▸ N.A.C.M. Postpones General Meeting in Forum Program

The Textile Forum of The National Association of Cotton Manufacturers which was to have opened its season with a meeting on Oct. 22 has rearranged its program to begin with the gathering of carders on Nov. 12. Superintendents, managers and agents of mills, who were to have convened on Thursday, will instead meet sometime next spring, thus having an opportunity to review the high spots of the previous departmental meetings. Representatives of manufacturers of machinery, dyestuffs and other mill supplies, will be invited to the meeting. The program of overseers meetings remains as originally announced.

W. O. Buzzell, representing the Southern New England Textile Club, is head of the committee on arrangements. He is assisted by Robert J. McConnell, representing the Textile Club; William Smith, representing The Textile Associates, and Russell T. Fisher, secretary, National Association of Cotton Manufacturers.

▸ Book Cites Durene Work As Promotion Example

In the second volume of "American Business Practice" just published by the Ronald Press, the Durene Association of America is cited as the example of trade associations which promote sales. The editors have included a chapter on "The Association Promotes Sales," which reviews the work done by that organization and analyzes the results achieved. At the conclusion of an extended discussion of the association's work the authors offer this summary:

"All the educational work served as a background for personal solicitation by the Durene Association, for because of the background the dealer was conscious that the association was selling the Durene idea to the very consumer who is the store's customer. And because the retailer realized that he must be aware of a name which an entire industry was pushing, the association got constant inquiries from the retail field as to how to make the most of the new name."

▸ Jas. E. Snyder Re-enters Yarn Business

Jas. E. Snyder, formerly sales manager for G. S. Lings & Co., has become associated with the Adelphia Textile Co., 1815 W. Bristol St., Philadelphia. He will cover Philadelphia and Pennsylvania handling their line of silk and cotton resist yarns, and sewing and looping threads. For the last four years Mr. Snyder has been engaged in other fields of activity.

▸ Knit Dress Demand Keeps Jupiter Mills Busy

Excellent demand for a new line of knitted dresses, is reported by the Jupiter Knitting Co., Milwaukee; orders come in rapidly and employees are working on a full five-day week basis. Sales volume since Jan. 1 is running approximately 50% above the corresponding period of 1930, with the biggest increases coming during the last two months, according to P. N. Schmidt, president of the concern.

▸ Organize Against Undue Freight Rate Increases

Organization of various committees to represent the textile interests of New England in their efforts to avoid unduly high increases in freight rates has been completed and several groups are cooperating with The National Association of Cotton Manufacturers to prepare data to be submitted to the Interstate Commerce Commission.

The campaign to bring about clarification of the freight rate situation was opened some time ago by the N.A.C.M. when a petition was filed with the Interstate Commerce Commission for suspension of the cancellation of commodity rates on cotton goods from points in New England to New York and western territory. The commission has suspended cancellation of the commodity rates until April 8 and the first hearing to be held by that body in the course of a general investigation of commodity rates on cotton goods will be held Jan. 26 in Washington.

Letters to the Editor

Comments on Wage Editorial

PAWTUCKET, R. I.

Editor, TEXTILE WORLD:

I was very much interested and pleased to read your editorial ["Wage Problem Reaches a New Stage"] in the Oct. 10 issue of the TEXTILE WORLD. I heartily agree with the ideas that you expressed.

I think that if more manufacturers would follow the dictates of their own conscience rather than what the other fellow does, we would all be better off.

I was very glad to see you come out as strongly as you did on this question.

A. L. KELLEY, *President*,
Rhode Island Textile Co.

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NEW BEDFORD, MASS.

Editor, TEXTILE WORLD:

Permit me to congratulate you on your excellent expression of thought in your editorial "Wage Problem Reaches a New Stage," TEXTILE WORLD, Oct. 10, 1931.

To my mind there is so much food for thought in this editorial that a copy should be sent to the Cotton-Textile Institute, board of directors of every textile manufacturing plant (particularly cotton), and one to the National Association of Cotton Manufacturers.

I think it is a classic.

THOMAS G. LEONARD.

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The 108" Sheet

The following letter was passed to us by the editor of "The Business Week":

ELMIRA, N. Y.

Editor, *The Business Week:*

In your issue of Sept. 23 I read a very interesting article—"New Jobs For King Cotton"—and among the articles mentioned whereby the cotton market might be strengthened was bed sheets and the possibility of increasing the length to 108 inches. If that can be brought about, I'm sure every housewife would rise up and give three cheers to the man or men responsible for the increase. Those of us who like long sheets have had to make them—so you see what a help it will be to buy them ready made. I'm for boosting "King Cotton."

(MRS. R. T.) ETTA H. LEWIS.

We answered it as follows:

The 108-in. sheet is not merely an idea; it is an accomplished fact. Practically all the large sheet manufacturers produce them. At this moment we can think of no exception to this statement.

Nor is this proposition confined merely to the production of a small quantity. Some of the manufacturers are producing more long sheets than those of the old length. And, they are being bought. Just this summer, for example, a report was submitted by Mr. Debrill, vice-president of the Associated Drygoods Corp., to the Cotton-Textile Institute, quoting from statements from various stores in his organization showing the strong trend toward increased use of the 108-in. full-length sheet. For example, whereas the 108-in. sheet represented only 20% of the business of the Stewart Drygoods Co., Louisville, Ky., last year, it now represents about 30% of that company's business. About half the sheet business of that store is in the 99-in. length and only 20% in the 90-in. length. Hahne & Co., Newark, N. J., did only 8% of its sheet business in 108-in. length in 1928 and this year is doing 33% in that length. We could quote from other stores showing the same trend.

The long sheets are available from the mail order houses and in retail stores throughout the country. The movement has gone so far that in Oklahoma for instance there is a law requiring the use of 108-in. sheet as minimum length in hotels. Associations of traveling salesmen have been active in promoting just this type of development. The Cotton-Textile Institute, through its New Uses Section, has fostered the idea aggressively.

It would be interesting to us to know if it is impossible for you to find 108-in. sheets on retail in Elmira. If you find that to be true, and would so advise us, we should appreciate it.

Editor, TEXTILE WORLD.

Discontinuance of Dye Census a Source of Regret

Ever since the real beginnings of the American dye industry in 1917, domestic consumers have looked forward to the annual census of dyes and other synthetic organic chemicals published by the Tariff Commission. Its discontinuance, announced last week, represents a loss to textile manufacturers. Dyes do not today represent the front-page news that they did during the war and post-war periods of scarcity, but progress in that industry is still a matter of deep concern to the consuming interests. Failure to receive an annual check-up of such progress will be regretted. It is to be hoped that a reversal of this decision may be secured.—*Editor.*

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PUBLICATION of the Tariff Commission's annual census of dyes and other synthetic organic chemicals will be discontinued. Ostensibly dictated for reasons of economy, the Commission's action is attributed to fear of criticism that the annual review of the domestic industry's operations is equally if not more beneficial to foreign competitors. It is reported that domestic manufacturers are divided on the advisability of continuing the survey but it is probable that a substantial proportion will go to Congress, if necessary, to assure its continuance. The last vestige of authority under which the Commission inaugurated the census in 1916 disappeared long ago. The revenue act of 1916 provided that duties then assessed on imported dyes would be removed in five years if within that time domestic production had not reached 60% of consumption by value. To check up on the progress of the infant industry, President Wilson instructed the Tariff Commission to make the annual survey.

As by 1921, domestic production had reached 90% of consumption, the Commission no longer had any official warrant for continuing the census. It had become so valuable to the industry, however, that it has been carried down to date. Chairman Fletcher stated that economy was not the controlling reason for discontinuing the census but he would offer no other explanation for the Commission's sudden action. He said that no complaints have been received concerning publication of much intimate data concerning the production, sales and inventories of chemical manufactures.

The Commission evidently decided to call a halt because there is much criticism in the air regarding its activities generally. There are reports that Senator Costigan, of Colorado, former member of the Commission, is preparing to bring an attack on the Commission at the winter session of Congress. The dye census may become a target. Chairman Fletcher stated that the Commission had up the question of abandoning the census a year ago but decided to continue it for another year.

Declaring that the census has been of direct assistance to manufacturers in balancing production and consumption, Warren Watson, secretary of the Manufacturing Chemists Association, declared that discontinuance is a patent loss to the chemical industry.

"The producers feel," he said, "that a serious mistake has been made by the Commission in this unexpected action. There is no discoverable demand for its abandonment and the motives are veiled in mystery."

▸ Relation Between Twist and Properties of Rayon Yarns

The results of a systematic experimental study of the relation between twist and certain physical properties of rayon yarns will be published in the October number of the Bureau of Standards Journal of Research. In general, the breaking strength determined by the multiple-stand method is not materially affected by an increase in twist up to about 20 turns per inch, states the Bureau, but it decreases rapidly with an increase in twist beyond 20 turns. The proportional limit and the strength at break both decrease with an increase in twist. The denier increases with increase in twist, and the contraction is greater for lower tensions and for higher deniers.

New Thread Finishing Plant An Outgrowth of Groves Mills, Inc., Gastonia

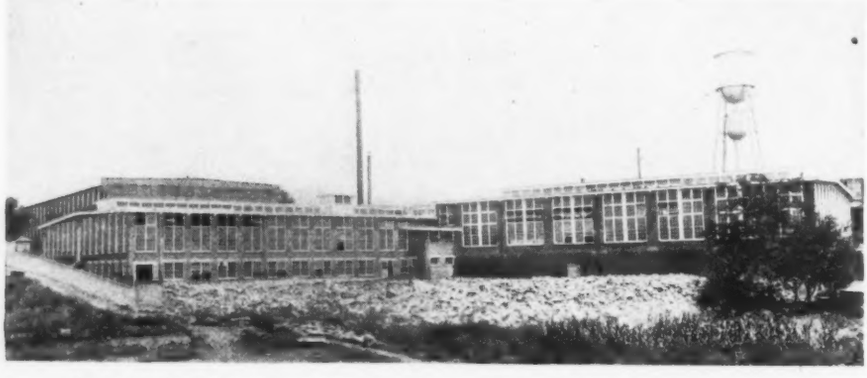
GROVES Thread Co., Inc., Gastonia, N. C., which is an outgrowth of Groves Mills, Inc., a combed yarn spinning plant founded in 1916, recently completed a modern yarn bleaching, dyeing and thread finishing plant. This development represents further diversification of combed yarn production in Gaston County as the Groves organization is now engaged in the manufacture of machine threads for all kinds of garment producers, including overall, shirt, shoe, pajama, suit and dress manufacturers.

The new thread finishing plant is housed in two separate buildings located adjacent to the spinning mills. One building is 127 x 131 ft., and the other is 143 x 100 ft., one story and basement. Cost of the new thread plant, including dyeing, bleaching, gassing and glazing machinery, was approximately $250,000

Equipment recently installed includes skein dyeing machines built by the Giles Dyeing Machinery Co., Frankford, Philadelphia, Pa.; Hurricane yarn drying equipment furnished by the Philadelphia Drying Machinery Co.; a Klauder-Weldon dyeing machine; a Buhlmann skein dyeing machine; Allen kiers for bleaching; and gassing equipment furnished by Cocker Machine & Foundry Co., of Gastonia.

Lorne Payne, formerly with the Hampton Co., Easthampton, Mass., is superintendent of the thread finishing plant. F. H. Upham, formerly with the Elmore Thread Co., Spindale, N. C., and the J. R. Montgomery Co., Windsor Locks, Conn., is assistant superintendent. John H. Stigner, with offices at 225 Fifth Ave., New York, N. Y., is sales manager in charge of merchandising both the gray yarn and finished threads.

Officers of the Groves Thread Co., all of whom are located in Gastonia, are: H. H. Groves, president; L. C. Groves, vice-president; E. E. Groves, treasurer; and M. O. Thornburg, secretary. W. C. Withers is superintendent of the spinning mills which have a total of 26,700 ring spindles and 13,640 twister spindles.



Thread finishing plant of the Groves Thread Co., Gastonia, N. C. Completed in 1931

▸ Wool Growers Working to Cut Their Costs

Covering every phase of the sheep business with particular attention to reduction in costs of production, a

strong group of speakers has been invited to address the 47th annual convention of the California Wool Growers Association which will open at San Francisco on Nov. 5 for a two-day session. A. T. Spencer, of Woodland, Calif., is president of the organization.

With the income from the sheep business reduced over 50% as compared to three years ago and cost of sheep production reduced only 10%, the sheepmen are facing a precarious situation unless united action is taken to relieve the present situation, Mr. Spencer states.

A round-table discussion in which bankers have expressed earnest desire to participate will be the order of the day at the San Francisco meeting. Plans will be outlined for a constructive program of work to help pull the wool-growing business out of the rut.

▸ Lowell Textile Installs Full-Fashioned Hosiery Machine

President Charles H. Eames, of Lowell Textile Institute, Lowell, Mass., announces the installation by the institute of an 18-section full-fashioned legger of the Reading type (product of Textile Machine Works) for demonstration and instruction in the knitting department. This department, according to Prof. Gilbert R. Merrill, who is in charge, has an unusual variety of machine equipment.

The new machine is suited to the production of full-fashioned legs of cotton, silk, or rayon, and will illustrate the flat spring-needle type of action, which up to this time has been illustrated with a hand frame about 100 years old. A topping machine and transfer bars will be used to illustrate the transferring of the leg to the footer, in order to demonstrate this step in full-fashioned hosiery manufacture. To complete this unit, a looper from the Southern Textile Machinery Co. is to be installed before the opening of the fall term.

Other equipment in the knitting department includes Lamb, Grosser, and Dubied flat machines; Wildman, Brinton, and Fidelity cuff and leg ribbers; Scott & Williams and Banner circular hosiery machine; Beattie, Hepworth, and Record loopers; Philadelphia metal drying forms; Merrow, Union Special, Singer, and Wilcox & Gibbs sewing machines; Scott & Williams, Wildman, and Crane outerwear and underwear machines; Payne and Universal winders (winders in other departments of the Institute are also available); and Barfuss raschel warp knitter.

▸ H. R. Barker Representing Cannon Yarns in New England

Harold R. Barker, 38 Rock St., Fall River, Mass., is now representing Cannon Mills, Inc., Philadelphia, in the sale of their cotton yarns in the New England territory.

Plain Wool Cloth Shows Slight Gain in Auto Use at Paris Show

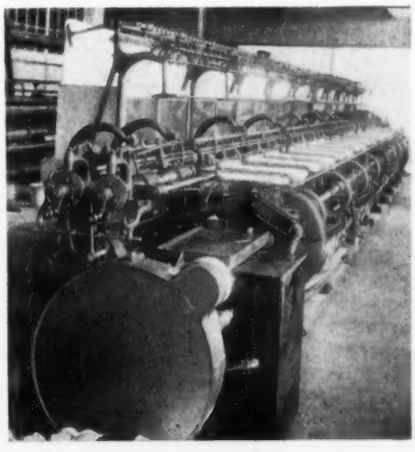
UPHOLSTERY materials shown on the cars exhibited at the Paris Automobile Salon this year disclosed that out of the 593 machines on view, 468 were upholstered in woolen materials of various kinds and 125 in leather or Fabrikoid, according to F. de Francia, Duco Information Service, Paris. Considering only the woolen materials, the following percentages were shown: plain wool, 54%; fancy wool, 23%; pile materials, 12%; Bedford cords, 9%, and fancy epingles, 2%.

According to these figures, plain cloth showed a slight increase compared with last year when 52% of the cars upholstered in woolen materials were done in plain wool. The majority of these cloths had a smooth, hard surface like broadcloth, the rest being of a fleecy nature. Bedfords showed an increase of 4% over last year. Pile materials and fancy woolens showed a slight increase.

In colors, beige and gray were in the lead, but a number of cars were upholstered in wine red and dark blue materials. Generally speaking, it might be said that the materials used this year were exceptionally sober in color and texture. Attempts made last year to introduce other materials for upholstery were not repeated this year, although the use of these materials for upholstery may be revived later on when some of the present difficulties have been overcome.

There was one exception to this. It was a coupe exhibited by one of the leading bodymakers and was finished in black. The upholstery was in silvery velvet showing an elaborate design in gold lamé. This, of course, is hardly an example of commercial practice since the pieces to cover the seats and door panels were designed individually and exclusively for this car.

The number of cars upholstered in leather or Fabrikoid showed an increase of 3% over last year. The actual increase in this type of upholstery on French cars was, however, greater than the above figure indicates because a larger proportion of imported cars were upholstered this year with cloth materials. These figures do not include the small number of one-seater semi-racing cars which are not indicative of any trend of fashion. Special grains were not numerous, the majority being in plain colors in very bright shades of green, blue and red.



The recently installed full-fashioned machine in the Knitting department of the Lowell Textile Institute

▸ Joseph Whelan Joins Textiles, Inc., Sales Staff

Joseph Whelan is now associated with Textiles-Incorporated Sales Co. and will represent it in the sale of cotton and mercerized yarn. He will operate in the metropolitan territory through the eastern office of this company which is under the supervision of H. A. Florsheim, vice-president and general sales manager, and is located at 225 Fifth Avenue, New York.

▸ Follies Star to Appear at Paterson Show

A. L. Courter, director of the Silk Style Show which will be a feature of "Silk Industry Week" at Paterson, N. J., Nov. 14 to 20 has engaged Dorothy Britton, Follies star, who was awarded the designation "Miss Universe" at Galveston, Texas, recently, to appear in the show. This event will held in the Paterson Armory, where the Silk Machinery Exposition also will be staged.

▸ Clemson Installs New Loom

Clemson College (S. C.) Textile School recently installed a Schwabe loom, loaned by the Machinery & Accessories Co., New York, N. Y., with an individual motor drive. The loom has weaving width of 93 inches and is suitable for the fabrication of women's cloaking, men's clothing materials, rugs and motor car coverings. It has a positive change using eleven shuttles. The Manufacturers Machine Co., North Andover, Mass., is installing in the jacquard section of Clemson College a 24-inch normalizer with individual motor drive.

▸ Boger & Crawford Appoint Southern Representative

Boger & Crawford, spinners and mercerizers, Philadelphia, announce the appointment of French Campbell, Jr., as regular representative for the sale of their yarns in Tennessee, Alabama, Kentucky and Georgia. Mr. Campbell's headquarters are 417 Provident Bldg., Chattanooga, Tenn.

Overseers' Round-Table

THIS department offers a new subject for discussion each week and gives readers' comments on problems introduced during previous weeks. The subject which was opened four weeks ago is closed this week and a summary of contributed ideas is given on opposite page

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Overseers' Salaries

Editor, Overseers' Round Table:

AN OVERSEER who thoroughly understands his business should receive at least $20 per week more than the workers. Anyone who considers $7.50 over the pay of the worker as adequate pay for an overseer insults the intelligence of the overseer.

In my opinion overseers' salaries are too small anyway. Compare their pay with tradesmen, such as bricklayers or carpenters, and then consider how much more studying an overseer has to put into his business than these people, how much more responsibility he has, and how much more he needs education. An overseer, therefore, should receive more money for his work, but—does he? SPINNER.

Uniforms for Employees

Editor, Overseers' Round Table:

IT IS difficult to ascertain over a wide area what provisions are made for workers changing their apparel in the mill where necessary, but I venture to say that it is very inadequate. For this reason, I agree with Pete that the principle of uniforms is a good one, for, in addition to the points he brings up, the adoption of this practice would ultimately mean the provision of proper facilities for the purpose of changing clothes.

It is acknowledged that uniformity in appearance is an important factor in promoting unity of purpose. Neatness and cleanliness without question would be reflected in the work produced. SEER.

On Social Mingling

Editor, Overseers' Round Table:

PETE IS right. Nine times out of ten it is fatal to mix business and social relations out of working hours. It is easier, perhaps, for the men, who can divorce the two better than women can, but there is no profit in having men who work on different planes of authority in a mill meeting outside hours for bridge and what-have-yous at each others' houses.

However you look at it, authority in working hours is broken down by too great intimacy out of hours. A super cannot ball out friends for failure to live up to their work contracts if he has been licked at bridge the previous evening at their homes. Either his friends will put it over on him, soldier on the job, take advantage of friendship or he will lose his sense of dictatorship that seems to cling to the job of super.

From the women's standpoint the social side of the job is incompatible with a job in working hours. Let the women have their afternoon teas, bridge parties and what-nots. Let the women play pinochle, bowl, or engage in stud poker to-

Bill Defends an Old

"QUITE some time ago," Superintendent Chase smiled, "when we were talking about smoking in the mill, I noticed that some of you sat back and weren't particularly interested in the subject. I suspect that those who weren't interested were contentedly chewing tobacco, so let's bring up the topic of chewing in the mill. I imagine that your comments will be loud."

"My comments," said Bill, "are going to be loud and they may be long. Anyone who thinks for a moment that you could stop tobacco chewing in textile mills, or in other industrial plants for that matter, doesn't know what he is talking about. Take away this necessary appendage to a workman's tools and production slows up. How many would continue on the job if you took away their accustomed brown nerve-steadier? Just take a tour around the mill and find out how many of the men are full-fledged members of the 'Tobacco Jugglers.' Look around your department and see the jaws moving steadily, see a man borrowing a plug from a friend, see how closely the manufacture of tobacco juice is tied up with the manufacture of textiles! Why, I know a mule spinner who has been kicking in and out with the mule for fifteen years and he boasts that he chews with such scientific precision that he can tell you how many chews there are to each draft. Take away the comfort of chewing tobacco from such men? Well, I think that there would be an unholy howl if you tried it and I can't see what good forbidding the practice would do, anyway."

"Far be it from me," Pete put in, "to deny the working man any privilege to which he is entitled, but when this privilege goes so far as to infringe on the rights of others it ceases to be a privilege and becomes a nuisance. Suppose the super is conducting a party through the mill. Can you imagine the reaction on the observation party when they are told about efficient methods and modern, sanitary

an Old Custom

conditions, and then spy in a corner the results of poor marksmanship? Think of those who are so careless that they stain newly painted walls, tickets and reports which go to the office, and even stock! I wouldn't go so far as to say that chewing tobacco should be forbidden in the mill, but I certainly say that there must be regulation and discipline to prevent abuse of the privilege."

"Just," said Hank, "because I don't chew myself doesn't mean that I am trying to force my views on you, but I agree with Pete that the privilege is greatly abused. However, I disagree with him about regulation. I think the thing to do is to forbid chewing entirely. Regulation is difficult and unsatisfactory. I'm all in favor of a cleaner mill and I think that even the chronic chewers could give up the habit and be glad that they had after a few days. As for those who say it is necessary for the working man to chew so that he will be contented, think of all the girls, women and men in mills who don't chew."

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Do *you* think that tobacco chewing in the mill should be regulated, or forbidden?

Overseers and others are invited to discuss this and other questions brought up in the super's talks. Letters accepted and published will be paid for without regard to length. Brevity is desirable.

gether as much as they like. But don't try the experiment of mixed parties between members of office forces or plants, their bosses, and all the wives concerned. E. A. NICHOLS.

Wages for Beginners

Editor, Overseers' Round-Table:

PERHAPS THE custom of not paying the beginner during the apprenticeship days came from Europe. It has been practiced in this country more or less, but is rapidly passing away. I hope we will be able to retain any good qualities it may have had.

As an overseer, I have been in close touch with this problem for a number of years and I find that it pays to give the beginner a justifiable wage. He feels that he has been treated fairly, and it gives himself respect and creates an interest in the company and his work.

The overseer should make it his business to see if the beginner is capable of mastering the trade. This should not take more than a very few weeks. The beginner should then be told just how he is progressing and if the overseer honestly feels that the beginner is not suited for the work he should be told to try some other class of work. I have had boys thank me for telling them and left with no bitterness or ill feeling of any kind. S. C. MOORHEAD.

Pensions for Workers

Editor, Overseers' Round Table:

A TEXTILE COMPANY should certainly pay pensions. Its faithful workers deserve it just as much so as a railroad man, a city policeman, or any other line of workmen.

A textile company, of course, works many more people than any other industry, therefore could not be expected to pension all of workers after a limited number of years, but to those who have been faithful workers for 25 years, and become unable to continue working, a pension should be given. Those who have reached the age of 60, and have worked faithfully for the company the last 25 years, should receive a pension. This plan would not include the able-bodied middle-aged, even though they have served the company faithfully for 25 years. These would not be entitled to a pension until they are 60 years of age, or disabled.

M. L. BAGWELL.

Scrubbing Mill Floors

Editor, Overseers' Round Table:

FOR THE last eleven years I have been working in either silk mills or converting plants, abroad and in the U. S., and during these eleven years I have also been through many mills and plants, as an employee or guest, but in few places did I have the pleasure of finding a thoroughly clean floor or plant in general.

In places where the responsibility of keeping the mill clean in and outside, was given to the foreman of the maintenance department I have found the best results. Production did not stop on account of the absolute necessity for keeping the plant clean.

The cost of extra help for scrubbing floors or cleaning in general accounted to the maintenance dept., for an average size or large plant, is less than the loss of time paid to the regular employees and production does not stop

PAUL H. EGGENBERGER.

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Summary of Discussion On Uniforms

About 73% of the contributions voted in favor of uniforms for the workers, holding that uniforms presented a neater appearance, attracted a better class of help, kept the operatives regular clothes from being damaged, and gave a spirit of cohension and pride. Those opposing the use of uniforms pointed out that differences of operating conditions, such as temperature, made a standard uniform impractical and stressed the point that uniforms quenched individuality.

NEWS about MEN

Dennis P. Carey, president of the Belding Heminway Co., has resigned from that position to become chairman of a newly created managing committee of Cheney Bros. The committee will include **Charles Cheney,** chairman of the board of directors; **Ward Cheney,** president of the company; **Horace Cheney, Frank D. Cheney,** general manager of the New York office, and **Clifford Cheney,** who is in charge of manufacturing at the South Manchester, Conn., plant. **Thomas E. Kavanaugh**, formerly assistant to the president of the Belding Heminway Co., Belding, Mich., and New York, has been made vice-president of the company in charge of operations. Mr. Carey will continue to be a director of the Belding Heminway company. No successor as president has been named.

Charles A. Cannon, president of Cannon Mills Co., Kannapolis, N. C., has been elected a director of the New York Life Insurance Co., to fill the vacancy caused by the death of Richard I. Manning, former governor of South Carolina.

Rufus W. Scott, chairman of the executive committee of Tubize Chatillon Corp., New York, with plants at Hopewell, Va., and Rome, Ga., sailed Oct. 15 for Europe on the "Europa." **E. R. Van Vliet,** treasurer of the company also sailed on the same boat.

Henry E. Stehli, treasurer Stehlisilks Corp., New York, has been appointed a divisional chairman of the silk goods and allied lines committee, of the commerce and industry division, of the Emergency Unemployment Relief Committee, New York. The relief committee has opened a campaign to raise $12,000,000 for the 750,000 unemployed in New York City.

Frank H. Willard, president of the Graton & Knight Co., Worcester, Mass., has been named as one of the eight members for Massachusetts of the committee of the National Association of Manufacturers to draft a platform for American industry for 1932. Mr. Willard delivered a radio address over Station WTAG, Worcester, Mass., Oct. 13 on "Living at Your Best Today."

W. D. Anderson was reelected president of the Bibb Mfg. Co., at the annual meeting held in Macon, Ga., Oct. 16. The old board of directors was chosen, who in turn reelected the following officers: **James H. Porter,** executive vice-president; **W. D. Anderson, Jr.,** vice-president; **A. A. Drake, Jr.,** secretary and treasurer, and **Charles C. Hertwig,** assistant secretary and treasurer.

John F. Tinsley, vice-president and general manager, Crompton & Knowles Loom Works, Worcester, Mass., has been decorated by the cross of the Legion of Honor of France, by the Rev. Crescent Armanet, president of Assumption College, Worcester, on behalf of the French government.

Albert Blum, treasurer of the United Piece Dye Works, New York, arrived Thursday from Europe on the "Isle de France."

N. M. Cranford, treasurer of the Asheboro Hosiery Mills for 12 years, has given up this connection to become manager of the Keystone Hosiery Mills, Asheboro, N. C.

John P. Nissen, former vice-president of the Cadet Hosiery Co., Inc., Philadelphia, has become a hosiery manufacturers' consultant at 708 West Sedgewick St., Germantown, Pa. He has been identified with the full-fashioned industry for 40 years, during which time he directed sales and advertising of the Cadet company for 15 years. He started his career with the Wayne Knitting Mills in 1889.

John Borden, of M. C. D. Borden & Sons, Inc., New York, selling agents for the American Printing Co., Fall River, Mass., has been appointed chairman of the textile division of the Emergency Unemployment Relief Committee, in New York. **George A. Sloan,** president of the Cotton-Textile Institute is a member of the committee.

A. S. Llewellyn, manager of the Wateree Mills, Camden, S. C., a division of the Kendall Co., is retiring as the department commander of the South Carolina American Legion. He believes that "Rehabilitation is the primary and paramount purpose of the American Legion."

Emerson R. Bailey, manager of the Bemis Bros. Bag Co., Memphis, Tenn., for 11 years, has been promoted to general manager of the San Francisco branch. He went to Memphis in 1920 from Omaha, where he was connected with Bemis Bros.

U. B. Herwitz, secretary of the Trojan Hosiery Mills, Indianapolis, Ind., is to take charge of the New York sales office of the mill. Mr. Herwitz has been located in Indianapolis for the last 10 years, as secretary of the company.

George R. Peck, who has been contacting both the New York and out-of-town trade for American Textiles, Inc., Bay City, Mich., for eight years, has become manager of the sales division of this knitting company. He succeeds **James G. Clark** who has resigned after 15 years with the company as reported in last week's TEXTILE WORLD.

Arthur H. Alterman, at one time sales manager for the Franklin Sweaters Mills, Philadelphia, and more recently in charge of production for the Paramount Knitting Mills, Inc., Philadelphia, has resigned and is taking his first vacation for a long time. His plans for the future have not been announced.

Edward Hopkinson has resigned as sales director of Philadelphia (Pa.) Sweater Mills. He has made no announcement of his future plans.

Textile Calendar

Philadelphia Textile Manufacturers Association, Annual Dinner Meeting, Manufacturers' Club, Philadelphia, Oct. 29, 1931.

American Association of Textile Chemists and Colorists, Piedmont Section, Fall Meeting, Hotel Charlotte, Charlotte, N. C., Oct. 31, 1931.

U. S. Institute for Textile Research, Annual Meeting, New York, Nov. 5, 1931.

Textile Forum, N.A.C.M., for overseers of carding, Chamber of Commerce Bldg., Boston, Mass., Nov. 12, 1931.

Silk Industry Week, Paterson, N. J., Nov. 14 to 21, 1931, including Silk Machinery Exposition, Nov. 14 to 21; National Silk Convention, Nov. 18 and 19; Paterson Silk Institute, Nov. 14.

Southern Textile Association, Spinners' Section (South Carolina), Fall Meeting, Spartanburg, S. C., Nov. 20, 1931.

Southern Textile Association, Weavers' Section, Fall Meeting, Greenville, S. C., Dec. 4, 1931.

American Association of Textile Chemists and Colorists, Annual Meeting, Hotel Statler, Boston, Mass., Dec. 4 and 5, 1931.

Cotton Manufacturers Association of North Carolina, Fall Meeting, Carolina Hotel, Pinehurst, N. C., Dec. 4 and 5, 1931.

Textile Forum, N.A.C.M., for overseers of spinning. Chamber of Commerce Bldg., Boston, Mass., Dec. 10, 1931.

Textile Forum, N.A.C.M., for master mechanics, Chamber of Commerce Bldg., Boston, Mass., Jan. 14, 1932.

Textile Forum, N.A.C.M., for overseers of warp preparation and weaving, Chamber of Commerce Bldg.. Boston, Mass., Feb. 11, 1932.

Textile Forum, N.A.C.M.. for overseers of dyeing, bleaching and cloth room, Chamber of Commerce Bldg., Boston, Mass., Mar. 10, 1932.

Knitting Arts Exhibition, 28th Annual Show, Commercial Museum, Philadelphia, April 11 to 15, 1932.

Textile Forum, N.A.C.M., General Meeting for agents and superintendents, Chamber of Commerce Bldg., Boston, Mass., April or May, 1932. (date to be set later)

Southern Textile Exposition, Textile Hall, Greenville, S. C., Oct. 17 to 22, 1932.

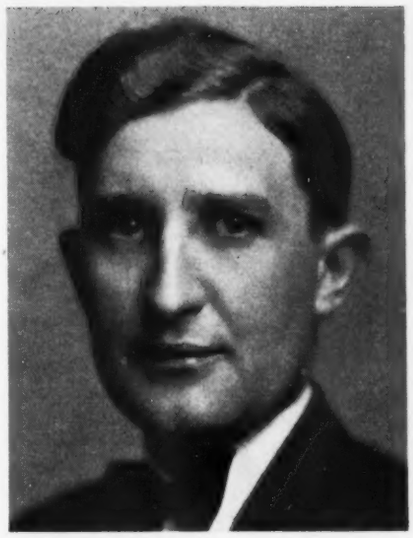
E. **L. Whitaker,** of the American Finishing Co., Memphis, Tenn., is now in New York, and plans to be there permanently. Mr. Whitaker has been at the plant in Memphis for a year.

John **Clingen,** with Shirley Silk Co., Inc., has just joined the Susquehanna Silk Mills, New York, where he will act as sales manager of the print department.

Raymond E. Wilkinson, formerly associated with the American Woolen Co., and more recently with the Hall-Troy Co., New York wool dealers, is now connected with the Forte Dupee Sawyer Co., which is now the sole representative in America of William Bussey, Bradford, England, handling a complete line of specialty fibers, including camel's hair, cashmere, alpaca and mohair for both the woolen and worsted trades.

P. A. Carter, veteran salesman for Haywood, Mackay & Valentine, Inc., New York, has retired after 43 years of selling cotton textiles. When he first started traveling in the South, Mr. Carter remembers, he called on the trade from El Paso to Baltimore, and it took him anywhere from 75 to 90 days to do it. **T. G. Mackay,** head of the firm which he is leaving, is saving Mr. Carter's desk and hopes he will continue to use it when the spirit moves him.

J. W. Menefee, Jr., formerly Chicago representative for the T. Holt Haywood Dept. of Fred'k Vietor & Achelis, Inc., has been appointed southern representative for H. M. Hubshman & Bros., New York, factors. He will be located temporarily at the New York office, but later on will make his headquarters in the South. Since severing his connection with the T. Holt **Haywood** organization, Mr. Menefee has been with the National City Co., New York.



C. E. Bailes, purchasing agent, Kendall Mills, Paw Creek, N. C., who read a paper on "The Relation of a Purchasing Department to the Mill" before the S.T.A., as reported in TEXTILE WORLD *last week*

W. B. Shuford, general superintendent of the Shuford Mill Co., Hickory, N. C., was married recently to Miss Virginia Jones, of Charlotte, N. C.

W. G. Tuer, who was overseer of weaving in the Indian Spring Mills of the American Woolen Co. at Madison, Me., before it closed more than two years ago, is now overseer of night weaving at the Kezar Falls (Me.) Woolen Co. He says the mills are quite busy, that he has 42 looms running nights in the 60-loom mill, and that they are working chiefly on chinchillas.

T. D. Merriweather, Richmond, Va., has been appointed auditor for the P. H. Hanes Knitting Co., Winston-Salem, N. C.

Horace Gatlin has resigned as overseer of spinning of the Martha Mills division of the B. F. Goodrich Rubber Co., Thomaston, Ga., and accepted a position with the L. V. Price Co.

G. A. Barnes has been promoted to assistant overseer of spinning of the Thomaston (Ga.) Cotton Mills, to take the place of **W. T. Blakely** who has resigned.

C. F. Helderman, formerly head of the weaving department of the Wearwell Bedspread Mill, Leaksville, N. C., is now overseer of weaving at the Sherwood Tapestry Mills, Inc. Burlington N. C.

F. E. English formerly of Anderson, S. C., is now night overseer of spinning at the Victor plant of the Victor-Monaghan Co., Greer, S. C.

J. W. Thompson, head of the carding department of the Oxford (N. C.) Cotton Mill, has been put in charge of the spinning also.

A. H. Graham, formerly of Oxford, N. C., is now overseer of spinning at the Golden Belt Mfg. Co., Durham, N. C.

Obituary

John R. Dover

John R. Dover, president of Dover Mill Co., Eastside Mfg. Co., and Ora Mill Co., Shelby, N. C., died of angina pectoris at his home there on Oct. 18, following an illness of two weeks. He was 73 years of age but had been active in the management of his mills until just before his death. Mr. Dover was born near the Kings Mountain battleground in York County (S. C.) and became a cotton buyer in South Carolina, Georgia and Louisiana. He was instrumental in the organization of the Ella Mill, of which he became president in 1907, and later he and his associates built the Katherine Mill. Both mills were sold and Mr. Dover took charge of Eastside Mfg. Co., about 1920, and later built the Dover and Ora plants and also acquired an interest in the Charles Mills Co., Red Springs, N. C., of which he was a director. He was a director in the Union Trust Co., of Shelby, and was active in civic, fraternal and religious affairs of his community. Mr. Dover was married to Mary Ella Toms, of Rutherfordton, N. C., who survives, together with nine children.

Edward N. Fenno

Edward N. Fenno, Boston, Mass., wool merchant, died Oct. 12 at his summer home in Quissett, Mass., of a cerebral hemorrhage. Mr. Fenno was 86 years old and a native of Boston. He graduated from Harvard with the class of 1866, and was a member of the first crew which defeated Yale on Lake Quinsigamond at Worcester, Mass. Mr. Fenno entered the wool business upon his graduation, and succeeded his father in the firm of Fenno Bros. & Childs.

Charles A. Isleib

Charles A. Isleib, head of the Eclipse Silk Co., Paterson, N. J., ribbon manufacturer, was killed instantly when an express train crashed into his automobile at Ridgewood, N. J. Mr. Isleib's first connection with the textile industry was as superintendent of Bamford Bros. Silk Co., Paterson, which went out of business in 1926. He then organized the Eclipse company. His widow, one daughter, and two sons, survive.

John H. Ralston

John H. Ralston, representative of James Doak, Jr. Co., Philadelphia, for the sale of their worsted yarns in New York and Philadelphia territories, died recently following an illness of several months. Mr. Ralston had been connected with the Philadelphia wool trade for many years prior to his association with the Doak company. He was president of William Wood, Inc., before that firm dissolved.

Fred A. Cooley

Fred A. Cooley, superintendent of the Atlantic Mills, Olneyville, R. I., for 24 years, died at the age of 60 at his Providence home on Oct. 14, after an illness of several months. He retired last February because of ill health. Mr. Cooley was born in Lawrence, Mass., and was superintendent of weaving in the lower Pacific Mills in that city before going to Providence in 1907.

M. Pernick

M. Pernick, son of Joseph Pernick, head of the textile machinery concern of that name, of Maspeth, L. I., died Oct. 9, as the result of an automobile accident which occurred while he was returning from a vacation.

J. R. Wall

J. R. Wall, aged 63, president and founder of the Ellerbee (N. C.) Knitting Mills and the Bank of Ellerbee, died at his home following a long period of ill health.

Sanford H. Moses

Sanford H. Moses, connected for more than 55 years with the Cable Flax Mills, Schaghticoke, N. Y., and president for 15 years, until his retirement 5 years ago, died suddenly last week at his home in Troy.

NEWS about MILLS

Cotton

Lincoln Mills of Alabama, Huntsville, Ala., which have been operating on part time, have adopted the 5½-day week. These mills employ more than 1,200.

Pepperell Mfg. Co., Lindale, Ga. This division is now working full time at the rate of 52½ hours a week. The mills have been operating about three days a week since July.

King Philip Mills, Fall River Mass., of the **Berkshire Fine Spinning Associates, Inc.**, resumed operations last week.

Erwin Cotton Mills, Durham, N. C., have let a contract for the construction of two small storage warehouses adjoining their bleachery. They will cost $7,500.

White Oak Cotton Mills and **Proximity Cotton Mills**, of the **Proximity Mfg. Co.**, Greensboro, N. C., have gone on a five-day week; they have previously been on a four-day schedule. **Revolution Cotton Mills**, and **Proximity Print Works** have been running on a five-day basis for some time. A 10% wage cut went into effect Oct. 15.

Spofford Mills, Inc., Wilmington, N. C. Operation of an 11-hour night shift, which will include 75 workers in addition to the full-day schedule, has been started.

Kutztown (Pa.) Textile Mills, Inc. Paul Wiltrout, manager, reports enough orders on hand to keep the plant, employing 125 workers, running day and night.

Aragon-Baldwin Cotton Mills, Inc., Whitmire, S. C., have been installing combing machinery and intend to make combed yarn fabrics there.

Wool

Saltex Looms, Inc., Bridgeport, Conn., division of Sydney Blumenthal & Co., reports that July and August 1931 business was 10% greater than was shown during these two months in 1930.

Waterman Worsted Co., Inc., Putnam, Conn., has filed a notice of preliminary dissolution, to be followed by an early certificate of dissolution under State laws.

***Ponikin Mills**, North Lancaster, Mass., until recently operated by the **Moulton Textile Co.**, which went into bankruptcy, and later sold at auction to Samuel Tater, Fitchburg, Mass., have been purchased by Festus L. McCann and Owen J. McCann, Clinton, Mass. They plan to operate the mills for the manufacture of worsteds. They will erect a new building to replace one of the older ones which is to be razed. The old dam, which has served the plant for several generations, will be replaced with a new one. Most of the machinery to be used in the plant will be new, including the power equipment.

**Indicates previous mention of project.*

***Valley Woolen Co.**, Leicester, Mass., was incorporated Sept. 22, with a capital of 1,000 shares of common stock, without par value, as a holding company for the Valley woolen mill, in Cherry Valley, formerly owned and operated by the Channing Smith Textile Corp., which went into bankruptcy. The new company has leased the mill to the American Wool Stock Corp., New York, and Baltimore, Md., as a New England branch rag sorting plant. The temporary officers and directors of the holding company are: Marguerite F. O'Connor, president; Benjamin Snyder, treasurer, and Charles Grace, clerk. All are of Worcester, Mass.

Palmer (Mass.) Carpet Mills of the M. J. Whittall Associates, Ltd., Worcester, Mass., have made a wage adjustment which amounts practically to a 10% reduction, affecting executives, office employees, foremen, overseers, superintendents, full day employees and four-day men. Weavers and winders are not affected. The mills, like others of the associates, with the exception of the Dedham (Mass.) Mills which are closed indefinitely, are operating three days a week.

Princeton Worsted Mill, Inc., Trenton, N. J., has secured enough business to keep them running on a full-time basis for the next month and a half.

Foster Yarns, Inc., Trenton, N. J., are holding to a day and night production basis, employing about 160 persons, which is more than were working at this time last year.

Portland (Ore.) Woolen Mills, Inc. Charles H. Carter, vice-president and general manager of the company says that they have all the work that can be handled at the present time, with part of the plant running three full shifts and the rest of it operating 16 hours a day. One-fourth of the work now in the mill is the Government order for 250,000 yd. of Navy uniforms fabric, which amounts to $500,000.

Otto Homuth Sons, Ltd., Preston, Ont., Canada, suffered a fire loss of $10,000, when an electric motor short-circuited. It will be necessary to rebuild the picker room.

Toronto (Ont.) Wool Scouring Co., Canada, is entering the woolen spinning business on a commission basis. The company has installed one set of 60-in. cards, two Platt mules, and will begin production soon.

Knit

Advance Knitting Mills, Los Angeles, Cal., sweater manufacturers, have moved into larger quarters at 1539 Sunset Blvd.

Corinth (Miss.) Hosiery Mills have installed three more knitting machines, making a total of 24. Their plan is to install 24 additional machines in 1932, with an eventual total of 90. About 80 workers are active at the present time.

Van Raalte Co., Boonton, N. J., has resumed operations with a working quota of about 500 persons, following a brief curtailment, due to protest of employees against a wage reduction. The wage cut has been accepted.

Edgewater Hosiery Mills, Inc., Burlington, N. J. A meeting of the creditors will be held Nov. 13, in the office of the referee in bankruptcy, C. H. Weelans, 137 State St., Trenton, N. J., at 11 o'clock.

Gotham Silk Hosiery Co., Dover, N. J., has resumed production at its local mill with a working force of about 800 persons. The plant has been inactive for a number of weeks, due to the protest of employees against a wage reduction. The reduced schedule has been accepted, approximating 35% to 40% of the former rate. This is the third reduction that has been made at the local mills during the last year.

Acme Knitting Mills, Inc., Brooklyn, N. Y., have been chartered with a capital of $100,000.

Oxford Mills, Brooklyn, N. Y., a new organization making knit cloth for the outerwear trade, have been organized by Emmanuel Doft and Jacob Mauer, both formerly with **Princeton Rayons, Inc.**, Brooklyn. The new organization is occupying a loft at 1 Main St., Brooklyn, and has installed knitting machines.

Keystone Hosiery Mills, Asheboro, N. C., are installing 200 Scott & Williams model K 260-needle machines, according to J. C. Bossong & Co., Inc., New York, exclusive sales agents for the company. The mill is also equipped with 240-needle Banner wraps.

Washington Mills Co., Mayodan, N. C., recently awarded a contract to the Fiske-Carter Construction Co., Greenville, S. C., for the erection of a five-story 100x100-ft., brick and steel addition to the main mill building. J. E. Sirrine & Co., Greenville, are in charge.

Old Fort, N. C. Current news reports indicate that business interests in Old Fort and Marion, N. C., are planning the establishment of a hosiery mill at the former place with an outlay of about

$80,000. The plans are still tentative and indefinite but it is said that Col. D. W. Adams, of Old Fort, now in New Mexico, is the principal sponsor of the enterprise.

*John E. Hanifen Co., E. Oxford and Thompson Sts., Philadelphia, manufacturers of outerwear, shows liabilities as $240,511, and assets as $100,635. Harold R. Shirley, Packard Bldg., Philadelphia, is the receiver under bond of $50,000.

Woolsey Knitting Mills, Shelbyville, Tenn., are building a one-story structure, 125x125 ft., to house additional full-fashioned 42 to 45 gauge hosiery knitting machines. It will be completed in about two months.

***Richmond Hosiery Mills, Ltd.,** London, Ont., Canada, is building a one-story $10,000 addition, which will be open for production shortly. Makers exclusively of men's socks, the firm is about to manufacture women's and children's goods.

Silk

***Maryland Silk Mills, Inc.,** Paterson, N. J., manufacturers of rayon fabrics, have purchased mill No. 5 of the **Thorndike Co.**, at West Warren, Mass., which includes about 61,000 sq.ft. of floor space. Alterations will be made in the building within the next month after which the silk company will move its machinery from Paterson to West Warren. The mill will probably be put in operation about the first of the year. This company has been in Paterson for about 8 years and employs in the neighborhood of 70 persons. With the installation of new machinery they expect to use about 250 workers in West Warren.

Tri-State Silk Corp., Paterson, N. J., recently organized with a capital of 1,250 shares of stock, to operate a local broadsilk mill, will be represented by Charles Atkind, 5 Colt St., Paterson, attorney. The incorporators include Carl Feinstein and Benjamin E. Freedman, both of Paterson.

Oswayo Valley Silk Co., Cuba, N. Y. Joseph Immerman and Max Lefkowitz, of Paterson, N. J., have taken a lease on this plant and have plans in progress for the resumption of production early in November. They will manufacture silk cloth.

Wm. E. Weiner, Inc., New York, domestic manufacturer and importer of novelty silks, is liquidating. Late in August it was announced that their French manufacturing interests, under the name of Soierie Weiner, were going out of business, and the mill in West New York, N. J., was sold. The Chicago office of the firm is now being closed.

Champlain Spinners, Inc., Whitehall, N. Y., have incorporated to do business with a capital of $75,000, and will take over the property of the old Champlain Silk Mills. Theodore Belanger, a vice-president of the old company is an incorporator and stockholder in the new one. Plans call for the manufacture of rayon products.

***Herman Silk Co.,** Coatesville, Pa. More looms are being added to the new silk mill recently established in the former Breuninger plant. At present 75 are already in place. The working force, of 60 persons, is to be enlarged as soon as the new looms are put into service.

***Myerstown (Pa.) Silk Mills.** Preparations are being made to reopen the plant, which has been closed for more than six months. Work may start in about a week.

B. Edmund David, Inc., Wrightsville, Pa., is considering extensions in the weaving department, with the installation of additional looms and auxiliary equipment.

*Indicates previous mention of project.

Rayon

Dupont Rayon Co., New York, following the policy of the parent company, E. I. duPont de Nemours & Co., is about to put into effect a six-hour day at its various plants, to ease the unemployment situation. This plan will make possible the addition of from 10 to 15% more workers. A 10% reduction among the salaried employees took effect at the Buffalo plant not long ago, and a five-day week was generally adopted.

Industrial Rayon Corp., Cleveland, Ohio, has several departments on a 24-hour day working schedule, with others running 16 hours daily.

Finishing

Arnold Print Works, North Adams, Mass., placed a 10% wage reduction in effect Oct. 19. Employees in the Adams division are also affected. The **Windsor Print Works,** also of North Adams, have made a similar wage cut.

Textile Dyeing & Printing Co. of America, Inc., Fairlawn, near Hawthorne, N. J., is negotiating with the city council of Paterson, N. J., for permission to discharge waste from its mills into the municipal sewage system. The refuse totals about 2,500,000 gal. daily, and the company is being proceeded against by the Passaic Valley Trunk Sewerage Commission to restrain it from polluting the Passaic River.

Warren Dye Works, Inc., Oxford, N. J., recently organized with a capital of 2,500 shares of stock, no par value, to operate a local mill, will be represented by Charles S. Van Auken, Paterson, N. J., attorney. The Principal incorporators are Abraham Shelkowitz, Passaic, N. J., and Victor DeLorme, Paterson.

Index Numbers to Evaluate Evenness

(Continued from page 33)

same way the third curve from the top gives 24 skeins deviating two deniers below the average and the same number deviating two deniers above the average. The other curves give the numbers having the indicated deviations.

The average number of skeins given by the top curve is counted only once. All others are counted twice; once above the average and once below the average. Since 200 skeins were used in the tests, the sum of the skeins is always 200 in Fig. 1. The sum in the case of Table V is $39 + 34\frac{1}{2} + 34\frac{1}{2} + 24 + 24 + 13\frac{1}{2} + 13\frac{1}{2} + 6 + 6 + 2 + 2 + \frac{1}{2} + \frac{1}{2}$, or 200.

If from the same bale 200 double threads are considered, the normal number of average size will be found by dividing 8.34 by 2 to get 4.17 for the sum of the squared deviations. Look above this number to find the number of averaged-sized skeins to be about 55. The number deviating two deniers below or above the average is $43\frac{1}{2}$. The figure n is in this case 2. The third curve from the top gives the number of skeins of double threads that deviate 4 from the average size, etc. For 4 threads use $8.34 \div 4 = 2.09$. Look above this number to find the number of average-sized threads to be about 79. For n threads divide 8.34 by n and look above the quotient to find numbers of various sizes.

Since the values found in Fig. 1 are very close to the results of silk tests, since the standard deviation is used in the normal-frequency formula, and since the unevenness increases and decreases with the standard deviation, we were led to consider the ratio of the standard deviation and the average size as an index of unevenness. The formula may be written:

$$U = \frac{2S \times 100.}{14}$$

The letter U represents the percentage of unevenness. The average size is 14, and S is the standard deviation found by taking the square root of the quotient found by dividing the sum of the squared deviations by the number of samples. The percentage of unevenness thus found is given at the bottom of Fig. 1. It corresponds to the sum of the squared deviations above it in each case.

Mr. Seem has found another method of using the sum of the squared deviations to find the percentage of unevenness. His method seems to give slightly better results, especially when multiple threads are considered. (Compare Table II with Table III.) The results of the two methods are fairly consistent, and either might serve as a standard method of measuring unevenness.

New Machinery *and* Processes

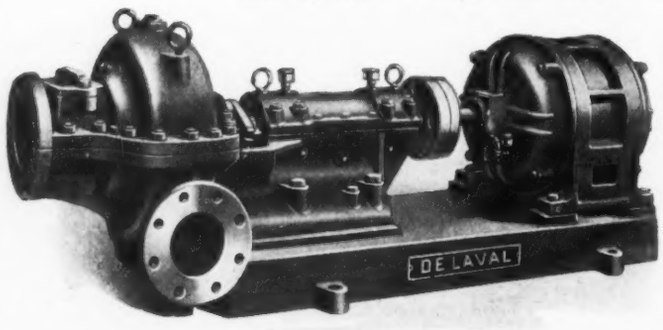
Individually Motor-Driven Stock Dryer

HIGH production drying of raw or dyed stock is the keynote of the new motor-driven stock dryer developed by James Hunter Machine Co., North Adams, Mass. The chief operating refinement lies in the application of individual motor drives direct to the fans in each section. It is stated that one or more fans can be shut off, yet the dryer will continue to deliver uniformly dried stock.

Other advantages derived from the use of individually driven fans, as cited by the manufacturer, lie in the fact that total shut down for fan repairs is unnecessary, bearing units are not subject to the heat of the machine, vibration is eliminated, horsepower is low, and projecting belts and shafting are eliminated.

An additional feature of this machine is the method of circulating heated air in spirals through the machine in reverse direction to the travel of the stock. Cool, conditioned entering air is applied first to the driest stock and the hottest air is applied to the coldest and wettest stock. It is asserted that this method insures balanced, economical driving and guarantees against not only parched, lifeless stock, but against rising steam consumption. The average consumption of steam is 1.5 lb. per pound of moisture evaporated.

The conveyor apron is of the single endless-belt type and is made up of perforated steel plates heavy enough to support the weight of a man. It is said that this apron cannot break and that it appreciably reduces the percentage of droppings.



Pump for handling corrosive and wearing materials

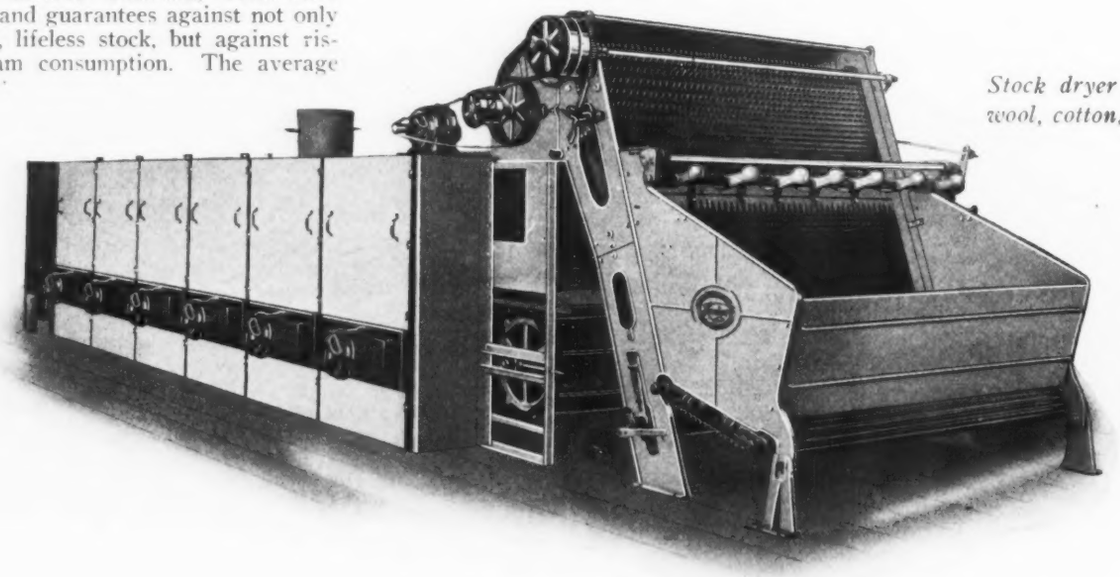
Centrifugal Pump for Liquids Carrying Solids

A CLOGLESS pump intended particularly for handling sewage and other liquids carrying solids has been developed by the De Laval Steam Turbine Co., Trenton, N. J. In designing this pump, particular attention has been paid to those special problems involved in the manufacture of a machine which has to handle corrosive and wearing materials. Large, open, and direct passages offering no corners or constrictions for the lodgement of objects which may have escaped the screens are provided. Parts which are most susceptible to wear have been so constructed as to be easily removable in order to facilitate the substitution of new parts.

The casing is split in the plane of the shaft, with the discharge connection in the lower half, or casing proper. The casing cover can therefore be lifted off without disturbing the discharge pipe connection and after only partially unbolting the suction pipe connection. When this has been done, all internal parts and passages are accessible; and the rotating element with its bearings can be lifted out, after loosening the bearing caps. A large hand hole, with easily removable cover, is located on the cover half of the suction nozzle to give quick access to the suction side of the impeller for inspection and cleaning.

The suction nozzle is designed for a large size suction pipe, insuring low pipe velocities and low total suction head, which is conducive to smooth and efficient operation of the impeller. The passages through the impeller are extra wide, both between the side plates and between the vanes.

The pumps are designed for both horizontal and vertical installations. Bearings are protected from wear by

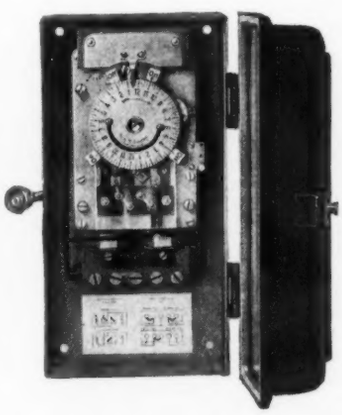


Stock dryer for rags, wool, cotton, hair, etc.

introduction of a clear sealing water at a pressure slightly higher than that of the pump.

Electric Time Switch

MINIMUM maintenance is the feature stressed by R. W. Cramer & Co., 67 Irving Place, New York, in describing their new electric time switch for off-peak control of waterheater installations. The clock movement is designed specifically for time-switch operations. Substantial oversized precision-cut gears and hardened alloy tool-steel pinions are used. The clock spring, which is automatically wound once a day, has a reserve power of three to four days. An ingenious clutch device prevents over-winding of the



Time switch for off-peak control

clock spring. The materials used in its construction are chosen so that changes in temperature will not impair its time-keeping qualities.

The small motor unit is of the induction type and consumes about six watts. The motor is on the line only 25 seconds of every 24 hours in order to wind the clock. A quick-acting, toggle-operated, brush-type switch unit with arcing tips is employed. It cannot reverse the operating program. It may be converted from a double-pole to a single-pole switch of 25-ampere capacity on 115- to 230 volts.

The standard dial is designed to control either one or two off-peak periods in 24 hours, and the arms can be conveniently set for any program. They are held in place by friction only and can be shifted along the periphery of the dial opposite any time mark. The program, once set, is revealed to the inspector at a glance.

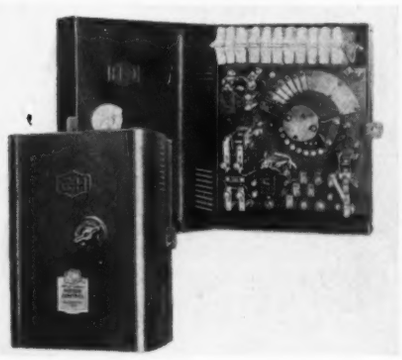
Separable Unit Electric Motor

IN THE design of their W-frame type squirrel-cage induction motor, Westinghouse Electric & Mfg. Co., E Pittsburgh, Pa., has incorporated the feature of making the different parts of the motor as entirely separate units. Having adopted the separate parts system, the company states that it has only to keep the number of standardized parts in stock to be able to build, on short notice, a motor for a specific application. This system has an additional advantage in that it will be possible to replace damaged electrical or mechanical parts without rewinding the motor or necessitating any prolonged shutdown.

When it becomes necesary to replace a damaged stator core, for example, the old core together with its winding is pressed out as a unit by means of an ordinary arbor press, and a new core is pressed in. The same procedure is applicable to the rotor.

Automatic Starting-Speed Regulator

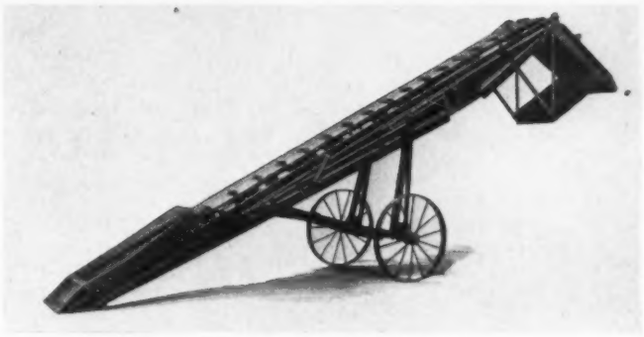
A NEWLY designed automatic starting-speed regulator for d.-c. motors up to 3 hp. is announced by Cutler-Hammer, Inc., 309 North 12th St.,



High starting torque is insured with automatic regulator

Milwaukee, Wis. This new regulator is of the counter emf. type, non-reversing, and is arranged to give 50% speed regulation below normal by armature control, and 100% speed increase by field weakening. It is designed for constant torque duty—where the load is constant and independent of the speed—for motors on textile machines, and other similar equipment.

Features of this controller cited by the manufacturers are as follows: automatic starting with a definite, high starting torque; predetermined speed setting by means of the speed-setting knob on the front of the case; vibrating field relay, assuring starting with full field; dynamic braking when stopping; two- or three-wire remote control of starting and stopping; split type enclosing case, making all parts accessible by opening door; and easily accessible resistor, mounted above the panel.



Light-weight portable loader

Portable Loading Machine

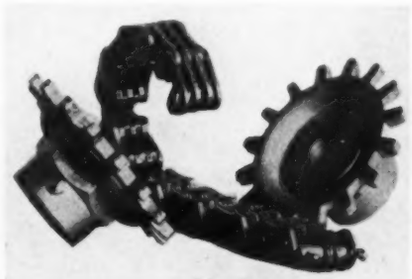
HANDLING of coal and similar materials is facilitated by the introduction of a new Cub portable loader. This development of the Link Belt Co., 910 S. Michigan Ave., Chicago, is said to be very rugged in construction but lighter in weight than previous portable loader models.

A convenient crank operates a self-locking worm and wheel, making it a simple matter to change the height of the conveyor to accommodate either high or low trucks. A substantial, large-area screening chute and roller-bearing wheels and idlers are standard equipment.

The apparatus is driven by a ball-bearing type electric motor which transmits its power through a gear and chain drive.

Midget Flexible Coupling

TO MEET the demand for shaft flexibility in power transmission in small horsepower installations, the Midget Coupling has been placed on the market recently by Morse Chain Co., Ithaca, N. Y. The new model is a miniature counterpart of the chain-and-sprocket coupling which has been used on installations up to 5,000 hp. The manufacturers state that this sim-



Flexible coupling for joining small shafts

ple design—two sprockets wrapped by a chain—has withstood strenuous tests in constant operation. The Midget is designed for shaft sizes up to 1 in. in diameter, and is characterized by its low cost and total lack of complicated parts.

Due to its all-steel construction, it is said to combine trouble-free service with long life.

Questions... *and* Answers

Rust Spots in Hosiery

Technical Editor:

Enclosed please find a stocking which has been put through a bleach batch for us. You will notice a distinct mark, apparently oil, at the instep transfer line. We are using a high grade of needle oil, and feel that this trouble ought to have been overcome in the bleaching. Your opinion as to the cause of this trouble and a possible solution will be appreciated. (7689)

From the scant information supplied it is difficult to determine the cause of this trouble and the way to eliminate it. The mark at the instep transfer line is positively not oil. A test with a prussiate-of-potash solution turned the streak into Prussian Blue showing that the streak in the instep was caused by rust—possibly rusty needles. There are also small spots in the foot of the hose that by the same test, are shown to be iron rust.

The best of stainless oils will not prevent iron rust from getting on the goods because of rusty needles. Rust may also come from iron steam pipes or from water pipes in the dyehouse, especially if they have been in use for a number of years. Modern dyehouses are now fitted with brass or copper pipes to eliminate damage caused by rusty equipment.

Bleaching will not remove grease spots of any kind, and therefore the goods to be bleached should enter the bleach bath as clean as possible. The place to clean the goods is in the boil-off bath; and with greasy goods special attention should be used to scour the goods properly in not too hot a scouring bath. If goods marred with grease, carbon from needles, or spots of any kind are entered into a boiling bath, there is a chance that some spots will be cooked in the goods. These will be difficult to remove.

Goods that have become yellow and stained with age will clean better in a warm scour than in a boiling-hot bath. The right procedure in this case is to run the hosiery at 120° F. for about 20 min. in the regularly prepared boil-off bath. Raise the temperature of the bath to boil-off temperature (about 205° F.), and continue running the goods until completely degummed (30 to 40 min.). In this way all oxidized oils, softeners, and lubricants used in preparing and knitting the silk will be emulsified and easily removed, instead of being permanently fixed in the goods.

To remove iron rust from hosiery, they should be treated for 30 min. in a warm bath containing ¾ to 1% of oxalic acid and immediately washed thoroughly in warm water. The cleaned goods then can be bleached.

▼

Finishing Wiper Cloth

Technical Editor:

In finishing wiper cloth, we are having some trouble in getting the soft raggy feel that we wish. In other words, the fabric has rather a harsh feel. We are exceedingly anxious to get the very softest hand that we can. If you can suggest any formula or any other way whereby this cloth may be softened, the information will be appreciated. (7679)

It is quite difficult to tell from the two samples of fabric submitted just what processing they have had. They appear to have been well boiled out, and the foreign matter is thoroughly removed. In the boiling out, we believe that a little too much alkali has been used. This would account for some of the harshness. If these goods are to be boiled out in a closed kier, we would use not over 3% of caustic soda and 1% of chip soap. This treatment should clean the goods and preserve the softness. If they are boiled out in an open tub, we would use no caustic but would employ soda ash and soap. As much as 5% soda ash and 3% soap might be used.

After boiling out, the goods should be washed thoroughly, dyed if necessary, and given a clear finish in a 75% sulfonated castor-oil solution made up to a strength of about 6 lb. to 50 gal. The goods should then be dried. In drying on cans, tension should be moderate. Only sufficient should be used to permit the cloth to hug the can snugly.

The goods should then be run through the spreader bars and tension device of a calender (no nip on the calender) or over the ledger blade of a shear or some similar device which will break the goods up. There are, on the market, breaking machines for this specific purpose. This operation will produce a soft, raggy feel; reduce the amount of lint; and make an absorbent wiper.

If the cloth is in short pieces, this method is not feasible; and we suggest handling them in laundry equipment. The pieces can be boiled out, washed, and given the softener in the laundry wheel. They can be dryed and broken up by passing them from the extractor to a tumbler dryer. This would have sufficient mechanical action to break up the cloth and produce a soft feel.

▼

Foulard Tie Constructions

Technical Editor:

What are a few of the common and uncommon constructions used for Foulard ties—with a print on cloth? We should like you to include specifications for the following: weave or weaves; warp yarn, turns per inch, if any; reed used, dents per inch; ends per dent; width reed; width woven; width finished; filling yarn, turns per inch, if any; size of filling; and picks per inch. (7700)

Some of the most common constructions of Foulard ties are the following: weaves, 2/2 and 3/1 twills; warp yarn, Japanese raw silk; size of warp yarn, 20/22, 2-ply; reed, 56 and 58 dents per inch; ends per dent on 2 by 2 twill, 2 double—on 3/1 twill, 3 double; width reed, 42 in.; width woven, 41½ in.; width finished, 39½ in.; filling yarn, Japanese raw silk; turns, 2½ per inch; filling size, 3/3/15; picks per inch, 96.

One of the uncommon constructions is the 6 x 2 twill or serge; weave, 6 by 2 twill; Japanese raw silk 20/22s; reed, 60—60 dents per inch; ends per dent, 4/2; width reed, 42 in.; woven width, 41½ in.; finished width, 39 in.; filling yarn, Japanese raw silk 4/13/15—2½ turns; 112 picks per inch.

Another uncommon construction is the 2 by 1 twill with eight shaft satin back. Warp yarn, 20/22 Japanese raw silk; 4/2—64 reed; reed width, 42 in.; width woven, 41½ in.; width finished, 39 in.; filling, 5/13/15; seven turns per in.; 112 packs per inch.

▼

Water Colors on Silk

Technical Editor:

We are enclosing herewith a sample of silk waste which is tinted with water colors. We are using a product containing vanillin and carbon chloride with which we treat the silk. We wish to secure some agent which will help our product to dissolve the water colors in this silk. (7690)

In order to increase the solubility and dispersion of water colors used to tint the samples of silk you have forwarded

to us, we would suggest the use of a sulfonated castor oil. Sulfonated castor oil can be combined with carbon tetrachloride. We do not know whether or not it will function with vanillin, but we are of the opinion that inasmuch as vanillin and carbon tetrachloride can be mixed together, the sulfonated castor oil can likewise be mixed.

You have made no mention of the other ingredients in your product; but if it is composed of practically all vanillin and carbon tetrachloride, we suggest that you take 75% sulfonated castor oil and make various compounds by adding definite amounts of your product to it. In order to stabilize the product and make a clear oil, it may be necessary to add a small quantity of denatured alcohol to this mixture—4 or 5% of denatured alcohol assists materially in making mixtures of sulfonated oil and carbon tetrachloride clear and transparent and also gives them better stability. Alcohol will further assist the solution and dispersion of the water-soluble colors.

We do not know for what purpose you intend to use this material and what prices you are forced to pay for your dyestuffs, but we believe it may be possible for you to use spirit- or oil-soluble colors to obtain the tint you desire. You can obtain spirit-soluble or oil-soluble colors to meet the entire range of shades in the sample which you submitted.

▼

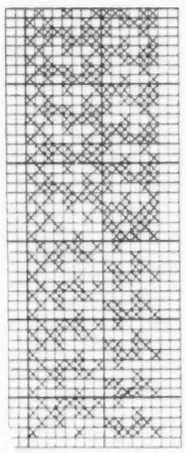
Shawl Weave

Technical Editor:

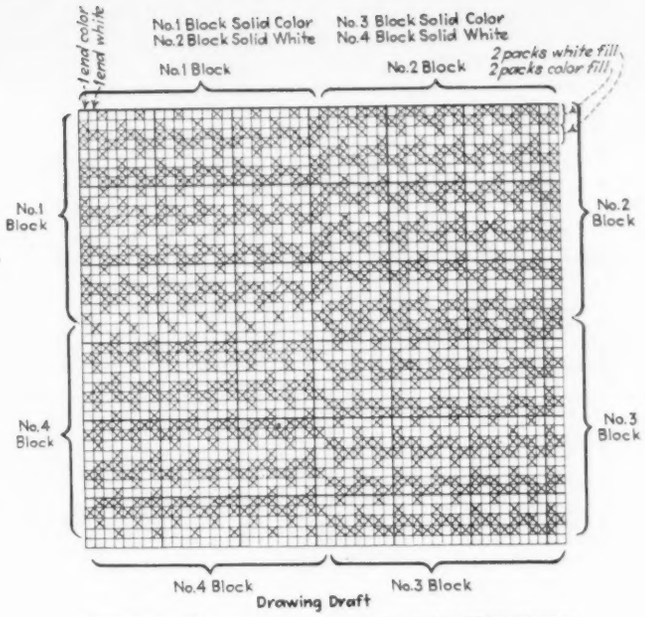
Many years ago a good many fabrics were woven with what is known as the "shawl weave," and I should appreciate your sending me the cloth design, chain draft, and drawing-in draft for this weave. It is woven on a box loom using two picks of color and two picks of white, or two picks of two colors alternating. The warp is plain white, single yarn, and the weave consists of two systems woven together. Four harnesses will make a fabric which is all white on one side and all color on the other. The addition of four more harnesses makes it possible to weave spots or squares. Adding more harnesses in groups of four, such as 8, 12, 16, 20, and 24, enables one to weave squares into a large design. Both faces of the cloth would show plain weave. For instance, if the count is 50 x 50, the cloth would show up 25 x 25 on each side. The body of the cloth is made up mostly of the filling, the warp making up about one-third of the cloth.

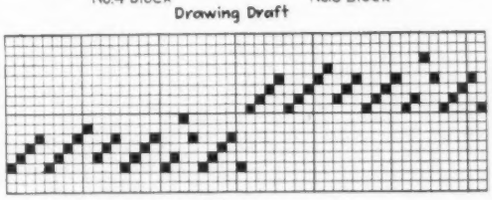
(7630)

The double plain cloth is the only fabric which, to our knowledge, would fill the requirements with respect to color and weave of the fabric described in the inquiry. However, it would be necessary to have the warp, as well as the filling, half white and half color. Such a cloth cannot very well be stitched together on account of the plain weave; for, if a colored end were brought to the surface when the white portion was being woven, it would show, no matter in what position the stitching end was brought up. The same would be true if a white end were brought to the surface when the colored portion was being woven. This is the only cloth that can be woven where four harnesses are required for the one system, and every change in the system would involve the use of four more harnesses.



Chain Draft





Selvage

Weave for double plain cloth with checkerboard effects, known as "shawl weave"

We furnish herewith the full weave of a double plain cloth that can be woven with checker-board effects and which requires eight harnesses for a repeat of the weave and two for the selvages; but the warp must be half white and half color, as must the filling. From this weave you can easily figure out any desired arrangement for a 25-harness dobby.

If you want a filling reversible, you can use an all-white warp; but you will have to use at least a four-harness twill for the base weave. It is well to figure on a tape selvage for weaves of this type on account of the contraction of the body cloth.

The weave has been laid out in block fashion so that you can see just how the warp and filling, color and white, interlace. The warp is drawn one end of color and one end of white, and the filling is inserted two picks of color and two picks of white. With the warp drawn-in in this manner there will be a better distribution of the color and white warp and less of a tendency for reed marks.

Due to the fact that this is a plain weave, it does not matter just where the stitching points come; because, wherever they are inserted, they will show on the face of the cloth. However, as you suggest, the napping process will no doubt cover up these defects.

On the drawing-in draft which we are submitting, we have allowed two extra harnesses for each warp block so that you can place your stitching wherever you please. The chain draft, however, has been made so that it will weave the cloth just as it is in the graph weave; that is, the blocks will not be stitched together except where the color and white warps change place. Harnesses No. 7 and 8 have been allowed for stitching of blocks Nos. 1 and 4; and harnesses 13 and 14, for the stitching of blocks Nos. 2 and 3.

We do not know just how large a pattern is wanted; but a study of the graph weave will show that it is an easy matter to enlarge the pattern to any size, because the weave in blocks Nos. 1 and 4 and blocks Nos. 2 and 3 repeat on four ends and four picks. You will note that No. 1 block is solid color on the face and solid white on the back and that this order is reversed in each successive block.

Inquiries should give the fullest information possible; and if damaged material is involved, a sample should be sent. We give no consideration to anonymous inquiries and do not undertake routine analysis of yarn or fabric, or investigation involving unusual expense.

Durene

NATURAL BLEACHED AND COLORED YARNS

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123 South Broad Street

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Manning St., HIGH POINT, N. C.

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52 Chauncy St., BOSTON, MASS.

261 Fifth Ave., NEW YORK

LOS ANGELES

HAMILTON, CANADA

Mills: CHESTER, PA., BELMONT, N. C.

ABERFOYLE MANUFACTURING CO.

♦ *Survey of Fabric, Knit Goods, Yarn and Raw Material Markets* ♦

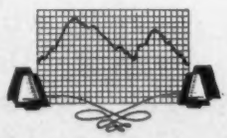
TEXTILE WORLD ANALYST

Uncertainties May Prolong Depression Now Nearing End

By Dr. L. H. Haney

SUMMARY

Business is nearing bottom, but such great uncertainties are created by proposals for inflation, threatening domestic political action, and international complications, that the depression is likely to be prolonged. Should an early rise be "stimulated" by inflation, a later crash would be inevitable. By restoring sound conditions we can restore confidence.



THESE are highly uncertain times with such intangible factors as politics, monetary policies, and "sentiment" being so important that the work of the forecaster is extremely difficult. Nevertheless, it seems well to stick to realities and we therefore present a summary of the favorable and unfavorable factors in the situation insofar as these can be definitely appraised.

FAVORABLE FACTORS

1. *The P-V Line barometer is holding up.* This is a ratio of commodity prices to the physical volume of trade, and the fact that it is well maintained indicates that the decline in physical volume has been greater than the decline in prices. Usually this condition means that liquidation is nearly over and that the bottom of the depression is near, since things are getting so cheap that prices hold better than production.

2. *The averages of commodity prices continue to show signs of greater stability,* and some recovery in grains, live stock and cotton are hopeful.

3. *Business sentiment seems to show some improvement,* as hopes for a more orderly liquidation of bank credit and for some steps toward solving the great problem of inter-government debt, are about to be taken.

4. *Building contracts awarded did a little better than usual* for the season in September.

5. *Factory employment in New York state made the usual seasonal increase* in September.

6. *The restoration of more normal Reserve Bank discount rates and money rates* in New York may be mentioned as favorable, in that it indicates that the artificial money policy is being abandoned. This is likely to help the banks by allowing them to attract deposits. In general, it will tend to encourage investment as opposed to speculation.

UNFAVORABLE FACTORS

1. *Great political uncertainties exist in Germany, England, and United States,* to say nothing of the Orient. Questions of taxation, tariff, finance, business regulation, and the soundness of monetary systems, are involved.

2. *A majority of commodity prices continue to show declines* from week to week, especially in the case of metals and other more sensitive commodities.

3. *The purchasing power of the average consumer shows no improvement* and has probably declined further. The average weekly earnings of factory laborers are reduced and the farm situation shows no improvement. The rest of us are affected by failures, salary cuts, dividend reductions, and other factors.

4. *Stocks of many important commodities continue burdensome.* Stocks of zinc and copper increased last month and stocks of cotton cloth decreased less than usual. In general, stocks of raw materials and many manufactured products show little or no improvement over a year ago and are high, particularly when compared with shipments.

5. In general, *forward buying and unfilled orders show a declining trend.* The unfilled orders of the Steel Corporation fell unseasonably in September in spite of the very low volume of shipments; and unfilled orders for carded cotton cloth increased much less than usual and were extremely small for the season.

6. *Railway traffic and earnings continue to decline,* the September volume of freight tonnage reaching a new low for the recession. (Railway car loadings as usual are at "the high point of the year," but are 20% below even the low level of a year ago.)

7. *Automobile production and sales continue to make a poor showing.*

8. The inevitable *letdown in the wool manufacturing and shoe industries* has occurred, and the cotton-manufacturing statistics have become less favorable.

9. The country is suffering a *heavy loss in gold,* due to foreign withdrawals, and much gold is being hoarded by its citizens. As a result, *money rates have advanced quite sharply,* and we are witnessing the spectacle of a forced abandonment of the ill-advised "easy-money policy" of the Reserve Board, which, coming at this late stage is a sad commentary.

SUMMARY

The unfavorable factors appear to predominate, both in number and weight. They are more pronounced and more tangible than the favorable factors. The business recession continues and is likely to do so until basic commodity prices are more firmly stabilized and stocks of many commodities begin to be reduced. The recession, however, is now at a less rapid rate. Moreover, business "sentiment" has improved in comparison with a month ago. We are more and more facing the facts as they are, and this prepares the way for a sounder hopefulness. It seems possible to say that the recession is nearing bottom. It is only the unsettling influence of the political situation and uncertainty as to monetary values, both here and in foreign countries, which makes it impossible to predict bottom in the near future.

THREE POSSIBILITIES

One possibility is that the inflationary measures now being taken may not only prevent further liquidation but also start a "boomlet" similar to that which occurred in 1895 following the depression of 1893-4. This might result in leveling up the more thoroughly liquidated situations while keeping the un-

The analysis and forecast by Dr. Lewis H. Haney, Director, New York University, Business Research Bureau, which regularly appears on this page, considers various branches of the textile industry from week to week. The conclusions reached in the Analyst are mostly forecasts and generally apply to a time two or three months ahead. The Analyst is based on statistical data and does not reflect temporary trade sentiment.

"Winter Cottons" take the stage

THE new fall and winter season ushers in a host of unusual cotton fabrics—heavy tweeds, sheer tweeds, laces, corduroys, velveteens and others. But before the production of these fabrics, comes the yarn—yarn so far outside the scope of the average mill that weavers and knitters are prompted to say, "Who spins it?"

Here's a blanket answer to that question, no matter what kind of cotton yarn you have in mind: Quissett spins it. And spins it well. First of all, because this group of textile men and operatives have lived with the textile industry for many, many years. Next, because under the roof of this mill you find all that is modern in the way of equipment, wide in range and variety. And lastly, because Quissett has a 20-year reputation for versatility, for the ability to quickly produce any type of cotton yarn.

So there's no need to ask "Who spins the yarn?" when you plan new fall and winter fabrics. Just get in touch with Quissett. You'll get samples in short order. Quotations that meet the market. And on-time delivery of smooth-running, even yarn. Write for samples.

Quissett Mill
New Bedford, Mass.
Wm. M. Butler, Pres.
Edward H. Cook, Treas.
Thomas F. Glennon, Agent

Our quotations based on
Cost + a reasonable profit.

QUISSETT MEANS QUALITY

QUISSETT
Cotton Yarns
AND
Quitex Spun
Rayon

deflated situations intact. Such a development would be used by those who are caught with over-valued securities and other property as an opportunity to unload. It would probably be followed by a final crash such as came in 1896.

Another possibility is that the inflationary attempts might fail (as they have thus far) and that liquidation would continue its normal course until the inflated situations are leveled down and deflation is complete. This would mean lower prices for a good many leading stocks and for those manufactured commodities which are still out of line with raw materials (e.g. finished steel and possibly some wool cloths). It would mean more failures among weak banks, and reduced railway wages.

Still a third possibility is that liquidation may be checked and frozen assets be held in cold storage, thus continuing for a time the present maladjustments due to the irregularity of deflation thus far. This would mean a prolonged period of depression and uncertainty.

The Analyst leans toward "following through" on the job of getting prices uniformly reduced to levels which will allow buying and selling to begin again in a natural way. This is a painful but most effective process. We have tried ignoring the unsound spots and cutting off the tail by inches. We know that we must always pay for inflation.

"The Hoover Plan"

Probably we are warranted in hoping that some good will come from the latest plans from Washington. If they can restore confidence in our banks and check bank runs, much good may be done. This hope, however, should not blind us to the dangers involved in these plans.

A brief summary of the essential features is as follows:

1. Stop bank runs by shifting frozen loans and investments to a great credit pool (as it were, taking frozen assets out of ice boxes and putting them into one big electric refrigerator).

2. Fill up the void left in the assets of weak banks by giving them more credit drawn from the Reserve System —which is inflation.

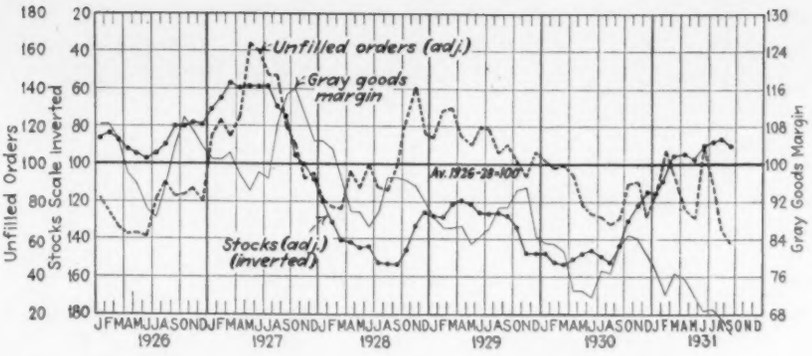

Unfilled orders (adj.)
Gray goods margin
Av. 1926-28=100
Stocks (adj.) (inverted)
Unfilled Orders
Stocks Scale Inverted
Gray Goods Margin
180 160 140 120 100 80 60 40 20
20 40 60 80 100 120 140 160 180
130 124 116 108 100 92 84 76 68
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1926 1927 1928 1929 1930 1931

Fig. 2. COTTON CLOTH BAROMETER: Unfilled Orders, Stocks (inverted) Adjusted for Seasonal Variation, Association of Cotton Textile Merchants of New York. Gray Goods Replacement Margin Based on Textile World *Index. Average for 1926-1928 = 100 for three indexes.*

3. Let down the bars of reserve credit, so that it may be used for carrying securities other than government bonds: the strong members of the credit pool would draw credit from the Reserve System and supply it to the weak ones, and ultimately it is proposed to change the Reserve Bank law.

4. Pump government credit into agriculture, real estate, and possibly railways, through loans and the proposed reestablishment of the war finance corporation.

In the Analyst's opinion, this plan is unsound at bottom and can be defended only on the assumption that it will not be carried to extremes, but will be cautiously used as a temporary emergency measure. *If its psychological effect is so strong that the pool does not have to take over much frozen asset material from the weak banks, it will be well.* Otherwise we are likely to find ourselves worse frozen and, on top of that, plunged into inflation.

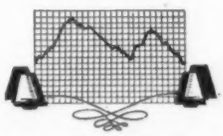
Cotton Cloth Statistics Not Favorable

When correctly analyzed the Cotton Textile Merchants Association figures for September are almost entirely unfavorable and to talk about the "strong statistical position" of the industry is a disservice.

First, the unfilled orders increased only a trifle, when there is usually a large increase on account of normal seasonal conditions. Therefore, our adjusted index declines and is the lowest on the record. In other words, the September unfilled orders were the lowest *for that month.* Second, this means that new business has not held up normally in proportion to shipments. In fact, the average weekly shipments declined in September and were below a year ago. (Had the shipments not declined, moreover, the unfilled orders would have made an even more unfavorable showing.) Third, as production increased it gained on shipments and, therefore, has brought a tendency to increased stocks. In fact, stocks of carded cotton cloth decreased less than usual in September and there is a strong indication that they will increase in the near future unless production is much curtailed. Finally, the average weekly sales, in millions of yards, were only 57.5 in September of this year, against 72.9, 92.8, and 96.7 in the three preceding years.

It cannot be too strongly urged that the cotton manufacturers curtail production in order that they may maintain their profit margins and start a trend toward better-balanced supply and demand.

Market Briefs



Cotton: ***Stronger market draws better support.***

Cotton Yarns: ***Spinners resist buyers tactics, but market is irregular.***

Cotton Goods: ***More active with generous movement of gray goods.***

Wool: ***Very quiet due to sluggish cloth market with slight easing evident.***

Worsted Yarns: ***Price cutting unsettles market tone.***

Woolen Goods: ***Fair call for quality fabrics.***

Silk: ***Little buying; prices unchanged.***

Silk Yarns: ***Increased spun silk interest; thrown yarn quiet.***

Silk Goods: ***Buying slack, due to delayed openings.***

Rayon: ***Light demand centers on coarser deniers.***

Knit Goods: ***Christmas hosiery orders backward. Heavyweight underwear and sweater mills oversold; swimsuits quiet.***

High quality mercerized underwear is more popular than ever

●

● **To make quality underwear, you must use quality yarns.**

B. & C. yarns have always been known for their fine qualities made especially for the knitting trade.

In Natural-Mercerized-Gassed - Bleached - Preshrunk-Colors.

Write today for samples and prices.

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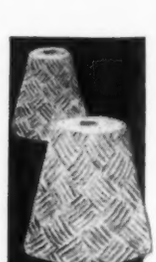

YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

◆Cotton Yarns Find Interest in Futures

ADVANCES in cotton have been reflected in yarn prices quoted by spinners. These advances run from ½ to 1c. per pound over the previous low levels. As yet, buyers are resisting these higher figures and usually hunt through the market for a weak spot. That these still exist may be recognized from some of the sales reported. In not a few cases the yarn dealer or spinner has sacrificed needlessly what might be a profit. An instance of this is noted where a sale was made last week of 30s-2 warps at a price fully 1c. below what the buyer would have been willing to pay had the seller shown any firmness, as he had offered that price to a dealer whose price was ½c. higher. Such irregularities have helped to delay stabilization.

Continued strength in raw cotton is contributing more confidence. It is generally expected this firm tone will be maintained and spinners have been forced to advance prices to meet conditions arising in the spot cotton market as a result. That buyers are also appreciative of this situation is evident in the continued inquiry for yarns for future delivery running into early 1932. These inquiries are much lower than sellers' ideas. Dealers assert, however, there is a good volume of business "just over the hill."

Sales made recently have been at rock bottom prices and are well distributed over main lines of business. More interest is reported among tapestry mills, while manufacturers of tailors' trimmings and similar products have also been more active. Plush mills are still flat, while manufacturers of cheap lines of men's wear and dress goods are hunting for business. Dealers report opportunities for good-size sales in New England, but usually at such low prices they are unable to place the business; such as 15c. for 20s-2 warps, with spinners asking 17 to 17½c., and the lowest price 16½c. A dealer was able to place 30s-2 warps at 20c. recently, but now finds spinners asking 20½ and 21c.

Manufacturers of heavy and medium-weight underwear are taking in yarns regularly with occasional filling-in orders, but the end of their season is approaching. Light weight lines have not yet developed any business. Sport goods for outerwear continue to show interest in colored yarns. On 10s carded frame spun, basis is around 14½c. on average yarn; 18s at 16½c.; 26s at 19½c.

Combed yarns in singles are finding somewhat more interest. However, it is not always possible to reconcile buyers' ideas with those of spinners. On 10s 19½ to 20c. is noted, with 18s at 22c., and 30s at 28 to 29c. Underwear manufacturers are leading factors in what interest is noted. Mercerized yarns show no appreciable change.

Better Feeling in South

Sustained strength in raw cotton has been reflected in more inquiry on yarns through the South and slightly increased activity in combed yarns this week. Representative spinners report more business experienced in the coarse range of combed quantities, 30s, 36s and 40s being the most popular counts. Decidedly better sentiment was felt in southern yarn centers with several factors expressing the belief that the bottom had been passed in raw cotton prices. Carded yarns continued fairly active with indication of increased forward buying, although quotations have not advanced in proportion to the cotton rise.

◆Cotton Active on Moderate Reactions

THE more optimistic feeling which developed in the cotton market following the organization of the National Credit Corp. to rediscount sound but slow moving paper held by banks throughout the country, and the New Orleans plan for holding about 7,000,000 bales of cotton off the market until the end of the season, was reflected by further advances early this week. December contracts sold up to 6.85 and March to 7.13, making gains of about 138 points from the low records established on Oct. 8.

The demand then slackened somewhat and the market showed signs of hesitation later in the week, but increased confidence in values has found an expression in scale-down buying orders for both the trade and investments.

A belief that we are headed for a period of inflation of one sort or another in commodity values would seem to have been largely responsible for the more optimistic trend of sentiment. Naturally enough the plan for relief of the banking situation has been a strong contributing factor. State Banking Associations of Georgia, Texas, Arkansas and Tennessee, have approved the plan agreed upon by members of the Farm Board and individual southern bankers at New Orleans over the Columbus Day adjournment. It is not unlikely that this will aid the cooperatives in handling and holding new crop cotton.

Cotton is undoubtedly becoming available in great volume. According to the American Crop Reporting Ser-

(Continued on page 61)

◆Worsted Yarn Prices Puzzle Spinners

LITTLE actual improvement is noted in demand for worsted yarns. The advent of cooler weather has been a stimulus to the movement of such lines as sweaters, sport coats, and other forms of knitted outerwear. However, it has not yet developed any great volume of business which might result in added incentive for yarn purchases. There is somewhat more inquiry reported for small, fill-in lots, and improved movement of deliveries.

The price situation continues to reveal a decidedly erratic aspect. In fact, some of the quotations reported are so low that spinners competing against such offers admit they are at a loss to understand how such prices can be named in the face of prevailing wool figures. The only answer offered to the question was possible but not likely ability to secure wools at a lower price, because of purchases in large volume, or a desperate effort to keep mills in operation. With such prices being offered, it is to be expected that knitters are doing everything they can to beat down yarn prices still lower, and as most spinners are unable to compete with some of the prices reported, business is very much scattered.

Yarn dealers have been trying to figure some of the prices named. For example take the popular single 18s, slub-dyed, supposedly made from 50s quality, offered at 88 to 90c. At the higher level, the usual trade discounts together with selling costs would reduce the net to the spinner to 86½c. or less. With the average price of 50c. for the top, all the various operations of spinning, dyeing, transportation, and the cost of winding on cones would bring the costs of a single 18s to over 89c., which means a loss of 2½c. per pound for the spinner. It is in view of such cold facts as these that the yarn trade is wondering what the outcome is to be.

Another evidence of confusion exists in the bathing suit trade where everyone is at sea because of some of the low prices that have been named such as $9.75 per dozen. Other knitters are trying to meet such prices, so that business has not had much chance to develop confidence. Here again the trade is wondering what profit is made at such prices. On basis of 7 to 7½ lb. of yarn per dozen, even with 85c. yarn, with allowances for waste, the yarn alone would cost $6.50 to $6.87½ a dozen according to weight. With the necessary charges for manufacture, it would seem as if knitters were counting on making a profit out of their wastes.

Weaving yarns continue moving in sporadic fashion. Men's wear mills

MONOMAC SPINNING CO. *French Spun worsted yarns for knitting and weaving.*

ARLINGTON MILLS *Bradford Spun worsted yarns for knitting and weaving.*

ACADIA MILLS *Mercerized yarns—natural, dyed or bleached.*

NONQUITT MILLS *Combed yarns spun from American or Sakellarides cotton.*

CRAMERTON MILLS *Combed yarns for knitting and weaving.*

TALLAPOOSA MILLS • MARY LOUISE MILLS *High-grade carded weaving yarns.*

WILLIAM WHITMAN COMPANY, INC.

Selling Agents

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NEW YORK
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PHILADELPHIA
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CHICAGO
300 West Adams Street

CHARLOTTE
Commercial Bank Building

YARNS AND RAW MATERIALS

TEXTILE WORLD ANALYST

have little business on their books and for the most part are still waiting for orders in something like volume. Many of them are practically out of orders and they find buyers indifferent to the situation which may develop out of the strike condition in the Lawrence section. If these should be protracted, there may be some difficulty in securing goods as required. However, colder weather must soon appear, and develop a more extended movement of goods and yarns.

◆Raw Wool Market Awaits Developments

WOOL trading continues to contract, due to some extent to the strike at Lawrence, Mass., but mainly due to the period of stagnation which has settled over the New York goods market. Mill men are hoping for more seasonable weather to move goods and the wool dealers must wait on the mills. Prices have eased in certain spots, but the orderly manner in which declines have taken place in the face of slack business during the last month is an added indication that the wool situation is basically sound.

Reflecting the situation in worsted mills, which are very slow at this time, tops are quiet and there has been a further adjustment in prices which dropped fine 64s 1c. per lb. to 80 to 83c.; and half blood 60 to 62s, and high three-eighths 58s, 2c. per lb. to 73 to 78c. and 67 to 69c. respectively. As manufacturers are not inclined to buy ahead, no advance in demand can be expected until the mills are in better position. Some activity has been noted in districts where business has been secured as a result of the Lawrence strike, but the general situation is so dull as to counteract most of the usual effects of a strike.

Prices in territory wools are largely nominal owing to restricted trading, but the tendency has been to lower quotations approximately ½ to 1c. per lb. below previous levels. This also holds true for Texas and California wools, California northern now being available at 49 to 50c. clean basis.

Fleece wools have been easing during the last few weeks, but the only quotable change since last week is a drop in fine delaine to a basis of 24 to 26c., grease basis. Although 26c., the high end of the range, has been in effect for some time it has been difficult up to the present to pick up lots below 25c.

Considerable interest attaches to the plan of the Boston Wool Trade Association to secure an approximation of the amount of unsold wool in the country. A questionnaire has been sent to the members of the association and to wool dealers in other cities asking them to report unsold stock confidentially to the accountants chosen. Since the discontinuance of the wool trade inventory in 1930 and the quarterly Government reports there has been no means of knowing the quantity held by dealers. It is hoped that returns will be available by Nov. 1 giving the situation as of Oct. 15.

◆Wool Rags, Reworks, Wastes Drag Along

THE woolen rag market, which has been suffering from a notable lack of demand for some time, has seen still further recession in trading and hopes that the last six months of the year would show better business than the first six are rapidly fading. While prices at which transactions actually have taken place are some indication of values the number of such transactions has been so limited that it is difficult to say just what is the market price for any particular grade.

The slow demand for worsteds in the New York market has given the woolen mills some hope, in that demand for woolens has not fallen as sharply. If the Lawrence strike continues, rags and reworks may come into a more favorable position as compared with wastes, since Lawrence is largely on worsteds and the curtailed production of such wastes may cut supplies to such an extent that prices will rise.

◆Rayon Lull Hits Finer Deniers

THE slackening of demand which has been noted in the rayon market is most evident among manufacturers using the finer sizes. There is still a good call for the coarser deniers, 150 and up, and producers expect this division to keep active for some time. Weavers and knitters who use large quantities of 100s and 125s have become apprehensive as to future orders, due to the persistent rumors about a possible price cut in January, and they hold down on orders, confining their contracts to immediate requirements.

The price uncertainty, while it has no basis in fact, is becoming a serious handicap to buying. Producers themselves say there is no reason to look for any price change in January; they insist that the tendency in the market to interpret the withdrawal of the price guarantee as forecasting a price change, is unjustified. The aim of the rayon companies in withdrawing the guarantee, according to one representative factor, was "merely to give them a free hand." However, the manufacturers' attitude seems understandable; whether it was so intended or not, the fact remains that, if producers did expect a price change, the first step in such a contingency, would be to withdraw the guarantee.

◆Thrown Silk Quiet, Spinners Hopeful

THERE is little real interest being shown by manufacturers in thrown silk. Throwsters complain that broadsilk mills have so slackened their orders that organzines and crepes show practically no movement. Curtailment in the throwing mills prevents accumulation of stocks, but the outlook for actual turnover is not encouraging. Hosiery mills are taking delivery of pending orders but refuse to place new business. Prices have varied little, and price seems to be a minor point in current buying; manufacturers are indifferent even to special bargain offers.

Spinners report increased inquiries among mills that are planning their 1932 production schedules. Buying of spun yarns for spring has started, but no sizeable business is looked for before the latter part of November. Market tone is better and a good though late season is expected.

◆Raw Silk Quiet Due to Openings

RAW silk is sluggish and importers do not look for any quick improvement; the lull is due chiefly to the fact that broadsilk mills have not yet definitely settled down to production of spring fabrics, and are reluctant to stock up on silk, until they know what lines will lead. The spring fabric season is laggard in opening; numerous important companies have not yet shown their lines. Silk importers find a confident tone among the weavers, and they look for real buying within four weeks. Some broadsilk mills have resold quantities of raw silk, which tends to discourage the primary market.

Importers are getting a better call from the hosiery industry. Knitters placed orders here and there last week, and buying continued into the current week. The business is not large, but it has awakened hopes that the hosiery mills now will resume something like normal buying.

The apprehension as to a Sino-Japanese war abated this week, in response to encouraging news reports, and the Japanese silk market is steady.

HIGH QUALITY

AND CORRECT STYLE IN NEW DURENE NUMBERS

The Minneapolis Knitting Works supplies the soft durene underwear worn by the child at the left . . . The durene mesh underwear on the child at the right is from The Earnshaw Knitting Company . . . Both wear durene hosiery from Jacob H. Blaetz.

Vest and shorts of durene-and-wool from Rowland Spain & Co. . . . Durene stockings from The Blenheim Silk Hosiery Company.

Durene pullover shirt from the Superior Underwear Company.

The durene hosiery and underwear shown here are representative of the style and quality lines now offered by foremost manufacturers. Note the details of construction—the snug fit of the women's underwear, the swiss ribbing in the man's shirt, and the mesh and smooth fabrics of the children's garments. The careful styling of these numbers, together with durene quality, *identified by the durene label,* make these good sellers everywhere.

Durene is the finest mercerized cotton yarn that leaders of the industry know how to produce. Only one bale of cotton out of twenty-five grown can measure up to the durene standard. The mercerizing process makes the yarn stronger, more elastic, more absorptive and more durable. It has a soft, pleasing lustre and launders exceptionally well.

Let us tell you how the Durene Association of America is cooperating with manufacturers in marketing durene merchandise. Write—or call at the New York headquarters.

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THE FINEST COTTON
QUALITY BEGINS WITH THE YARN

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FABRIC MARKET REPORTS

TEXTILE WORLD ANALYST

◆Prices Are Stronger As Cottons Expand

THE sharp rise in raw cotton early this week brought much larger business and stronger prices to the cotton goods market. Traders had been aware for weeks that all that was needed was a stimulus to bring into being much of the withheld business which had been accumulating since buyers went on a strict hand-to-mouth basis early in August.

One house states that the week has brought out some old-fashioned fall business, and that the total was the largest since the moratorium week in June. The business accomplished in gray goods is for deliveries running through the first quarter of 1932 and much of it was done at prices ⅛c. above the lows of 10 days to two weeks ago. Although the business has been called "old-fashioned fall business," it is in large part to cover the early movement of spring goods in finished materials. Buyers have come to the obvious conclusion that they could not lose much at current levels, and, with cotton rising, they might do well to cover themselves against possible higher levels in the new year. The fact that gray goods have been as low-priced as at present in only rare periods for the last 40 years was another influence.

The Hunter Mfg. & Commission Co. reports that last week's business was 187% of production. "Print cloths and sheetings, fine and fancy goods, and sheets and pillow cases," says the report, "were the features, and, in these divisions, sales ran in excess of 200% of production. . . . During the week we have talked with some of the leading distributors outside of New York and have been much impressed by their opinions that the year 1932 will see an enormous distribution of cotton goods based on the values that will be offered." The company adds that its sales for the last week were 3% in excess of its sales for the entire month of last July.

Large sales of 68x72s were reported in the market at mid-week at 4c., but the price moved up to 4⅛c. There was a fair movement of 38½-in. 64x60s to the end of the year at 3¾c., and 80-squares, 4-yard, moved at 5¼c. for spots and 5⅛c. for contracts. Carded broadcloths were actively sought and their position strengthened considerably. Spots of some constructions held a ¼c. premium over December and second hands were selling a few spots at the same figure as goods from mills.

In a general way finished goods have been quiet. It is a between-seasons time for many lines, but the general operations by converters in gray goods must have some influence in bringing users to recognition that converters regard the future with more confidence and that many lines of finished goods are good value on the present basis. Retailers are cutting prices more freely than hitherto and the consumer is likely to become more and more aware of the real bargains that are being offered.

Rayon mixtures in the gray are not selling so well as they did several weeks ago. There is less confidence in the future price of rayon and steady cheapening of lines by makers so that quality of delivery has become a doubtful matter to some. Prices on most of these lines were weak.

◆Expensive Worsteds Enjoy Fair Call

THE wool goods merchant's reaction to the market this week depends largely upon what type of goods he carries. Firms specializing in a small range of medium to high-priced worsteds are enjoying a fair amount of spring business. Several spokesmen for this class say they cannot see why there is so much complaint, as they themselves are in a fairly good position. Hesitancy has cut down the size of the orders placed but the aggregate of contracts is encouraging.

Popular-priced fabrics do not fare so well. There is much price uncertainty at this end, and buyers find it hard to ascertain true levels; this has resulted in a tendency to hold off on orders. The possibility of a fabric shortage due to the Lawrence, Mass., strike caused a ripple of apprehension this week and brought some activity. The market as a whole does not take the shortage idea very seriously. Buying is so largely a spot proposition that the strike would have to last a good while before it would bring a rush of business, and prospects in Lawrence point to an early settlement.

Buyers Prefer Staples

Current buying is largely a sample proposition, and the call is mainly for staples and semi-staples. As usual in a hesitant season, buyers lean away from the livelier fancies. The cool weather has had a good psychological effect, and the outlook is improved.

Mills are cautious as regards production of the new season's lines, and stock position is fairly good. While the earlier reports of a heavy carry-over on the fall goods appear to have been exaggerated, it is likely that the inventory will be above that of last year.

Overcoatings were being generally sought by buyers this week and a good quantity of business was placed, mostly fill-ins for immediate use.

◆Caution Vital In Spring Print Output

THE broadsilk market is still unsteady at the spot end, and there is a feeling of uncertainty regarding spring. So informally are the mills showing their new prints, it is difficult to ascertain just what percentage of the industry has opened. Several leading companies are holding off on their showings, until buyers indicate greater interest. Cutters-up and retailers continue to concentrate on their immediate needs.

The lull is giving the market a chance to measure itself, and several aspects show up clearly. First, the curtailment of output while helpful, has not been as general as it should be. Mill representatives complain that there is still a substantial surplus of broadsilk fabrics available and they blame this for the current weakening of prices. Cantons and satins for spot shipment have lost the stability with which they carried through the first part of the season.

Second, the wiser observers would like to see a sharp reduction in the variety of spring print designs offered. As noted previously, some of the more successful companies have cut down on their selections, but the market is not supporting this trend sufficiently to bring the desired firming.

It is imperative that mills go slow in producing spring prints; indeed, it is rather unlikely that there will be much plunging. The trade as a whole lost heavily last spring due to backward buying, and a glutted market; the brief life of a print design makes curtailment at this end more vital than in the plains.

▸Cotton Style Show at Gastonia, Oct. 23.

Cotton fashions for fall were featured in a style show, sponsored by the Junior Woman's Club, Gastonia, N. C., as part of a "Harvest Festival" held in Memorial Hall in that city on Oct. 23. Miss Catherine Cleveland, of the Cotton-Textile Institute, had charge of the style show, while the only address of the occasion was made by J. H. Separk, executive vice-president, Textiles, Inc., of Gastonia, and a director of the Institute.

▸Silk Industry Employment Rises

Employment in the silk industry showed a seasonal upturn during September rising 10.8% as compared with the previous month but showing a decrease of 3.1% compared with September, 1930, according to the Silk Association of America, Inc.

YOUR MOST CRITICAL CUSTOMER . . .

will be pleased with the soft, full hand of silks finished with

SULPHONATED OLIVE OIL S-370

Here is a sulphonated Olive Oil that contains *only* Olive Oil—absolutely free from Castor, Corn, Red Oil or any other adulterant.

It is a *pure* Olive Oil sulphonated to a degree previously considered impossible in a commercial product. Its absolute purity and high sulphonation make S-370

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PHILADELPHIA, PA. — CHICAGO, ILL. — CHATTANOOGA, TENN.

KNIT GOODS MARKETS

TEXTILE WORLD ANALYST

◆Knitted Fleece Coat Shortage

HEAVYWEIGHT sweater lines are in good call, and buyers placing initial orders are compelled to wait four to six weeks for delivery. There is an acute shortage of fleece coats, it is reported, and worsted pullovers are selling so far ahead of supplies that they also promise to be short, soon.

A substantial part of the total sweater business for the season has been placed; prices do not allow for much margin, but at least they are steady, and the market looks for six weeks more of active buying at current levels. Careful curtailment of output early in the year has helped the mills to hold firm, despite an exceptionally backward season.

Recent price-cutting of swimsuit lines brought some hesitancy. The revision came before the demand had really caught hold, and now buyers are holding off until they can be sure further cuts will not follow. The small retailers and jobbers have placed little business so far. Some large swimsuit manufacturers report a good initial call from chain distributors.

◆Winter Underwear Enjoys Good Demand

HEAVYWEIGHT underwear is still selling steadily in most of the Northern States, and the principal mills are behind in deliveries; several agents in Worth Street are asking four to five weeks for shipment. They regard the situation as very satisfactory—with the added wish that the weather would definitely settle down. One cool snap last week helped movement, but rising temperatures this week made buyers hesitant again.

However, there are agents who welcome the warmth since it eliminates the unpleasant task of having to decline business. Prospects point to continued movement of heavyweights for another six weeks, with perhaps some mild reorder flurry thereafter. The season's volume will be well below other years, it is expected, but prices have held so steady that part of the industry at least should find itself on the black side of the ledger.

Spring underwear lines open draggily, and the price cut is averaging 8% below last year. The indifference of buyers to the coming season has influenced numerous mills to withhold showing their new lines, and only a part of the industry has opened. However, the outlook is considered good, allowing for a late season.

There was a very small carry-over of stock, and mills are cautious about accelerating output, until orders come in. Certain agents dissent from the general view that the buyers are responsible for the delay, claiming that many jobbers are ready to buy and would place business, if manufacturers would definitely announce their new prices.

◆Christmas Hosiery Outlook Uncertain

HOSIERY position for the next six weeks will depend almost entirely upon the Christmas policy of the buyers. In other respects, the industry is fairly well placed. The unauthorized strike of full-fashioned workers has ended, and mills are rushing their output of specialty numbers for the holiday season. Figures compiled by the Department of Commerce put August shipments of all classes of hosiery at 4,628,066 doz. pairs, as against total output of 4,287,635 doz. pairs. August production of women's full-fashioned was just a fraction above the shipments.

Worth Street is uncertain as to the Christmas volume outlook. Buyers are slow to cover for the holidays. Here and there, retail groups place initial Christmas business, but these orders are negligible as compared to the volume usually placed by this time. There is considerable interest in spot requirements, however, and stocks are moving at fairly steady levels. This demand stresses the medium and better grades, and some firms are enjoying active business.

The market looks for a congested Christmas buying. Interest is so light just now that it seems doubtful whether there will be any real holiday demand before mid-November, which would mean that all orders would come within a few weeks. Knitters regard Christmas as especially important for hosiery this year, in view of the strong trend toward economical gifts; however, there is some question as to whether stocks would be adequate to a big gift call. Christmas demand leans to a few specialized numbers, mill agents point out, and the stocks of these lines are limited. The delayed buying also is a factor, as mills hesitate to build up stocks when the holiday sales outlook is so uncertain.

Men's half-hose fare better than women's as regards Christmas. Wool hose are in good demand for November delivery and some firms report capacity business. Current call embraces both the low-priced rayons and the silk staples, and at that end prices are weak, as usual.

◆Raw Cotton Reports

(Continued from page 55)

vice, ginnings for the period Oct. 1 to 18, are estimated at 3,323,000 bales which would be the largest outturn on record for this particular period. At the same time and while cotton has been passing through the gins so rapidly, the volume of southern hedge-selling in New York has been comparatively small. There has been a good demand for cotton offering in the South, but offerings have been relatively light and the basis has been firmly maintained.

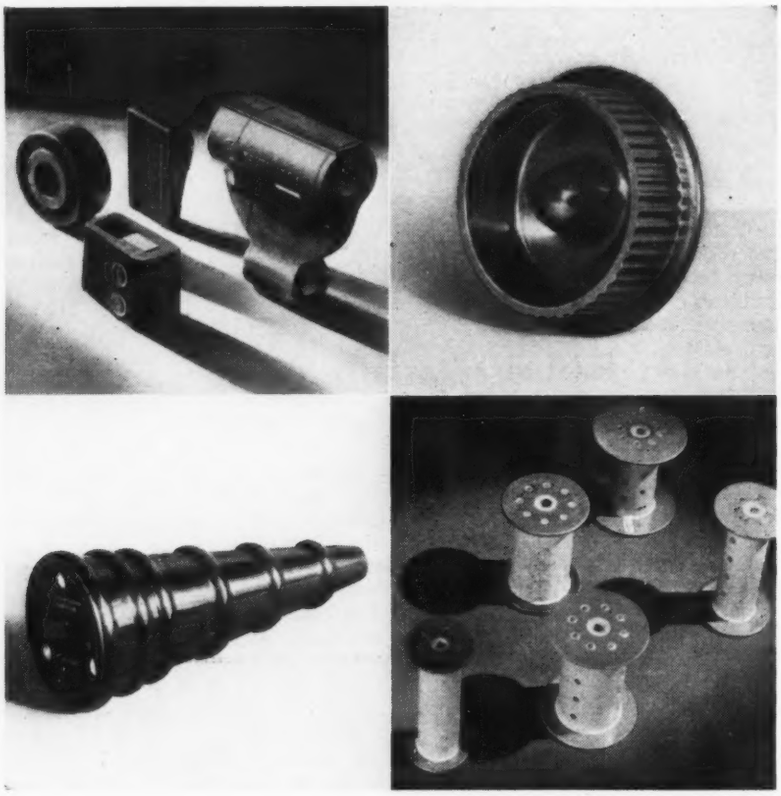
There has been trade buying for both domestic and foreign account on a considerable scale. Buying by houses with connections in Japan and China have been particularly active, but recent political developments with reference to Manchuria have been reassuring and the Far Eastern demand may have reflected ordinary mill requirements.

The fact remains, however, that there is a very large surplus of cotton to be dealt with. With a carry-over of approximately 8,800,000 bales and an indicated crop of around 16,200,000 bales, the available supply for the season figures out about 25,000,000 bales. Last season's world's consumption of American lint cotton was in the neighborhood of 11,000,000 bales. Lower prices should stimulate consumption this season, but it is likely that Manchester, which is reporting increased activity since the suspension of the gold standard, will find it more advantageous to buy competing growths where they are available.

◆More Interest in Cotton Wastes

COTTON waste dealers reported a slight improvement in the market this week, the number of inquiries being considerably larger than during recent weeks. This was directly attributed to the advance in cotton prices during the previous week, and waste dealers state that the continuance of this better tone depends largely upon the action of the raw material in the immediate future.

Mills showed greater interest in peeler comber, No. 1 quality moving on a basis of 5¼ to 5½c. Export dealers also bought in a small way for foreign accounts, paying around 5¼c. for average grades. Peeler strips continue to lead other wastes in interest and it is selling at par with peeler comber. Upland strips are less active. Mattress and cotton batt makers bought picker and fly more freely, No. 1 grades of picker at 2¾c. to 3c., and good fly around 3½c. Good grades of threads for machining were more active, white spooler bringing 4 to 4½c., and colored threads 3½c.



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TEXTILE FINANCIAL NEWS

TEXTILE WORLD ANALYST

♦Stevens Mfg. Co. Plans Reorganization

STOCKHOLDERS of the Stevens Mfg. Co., Fall River, Mass., have been asked to vote at a special meeting Oct. 28 on recommendation of directors involving reorganization. Under the plan outlined by directors, a new Massachusetts corporation, to be known as Stevens Mfg. Corp. would acquire all assets and assume all liabilities of the present corporation, the new company to have an authorized capitalization of 12,000 shares of $50 cumulative, convertible preferred stock and 16,000 shares of no-par common stock. All of the new preferred will be distributed share-for-share in exchange for the present preferred, and 6,000 shares of common will be reserved for the conversion requirements of the new preferred stock. The remaining 10,000 common shares will be purchased by Clarence Whitman & Sons, Inc., selling agents, for $10,000 in cash.

Kendall Co. Profit

The Kendall Co., operating cotton mills in the North and South, reports for the first 36 weeks of 1931 net profit of $301,630 after depreciation, bond interest, taxes and provision for dividends on preferred stock of subsidiaries in hands of the public. This compares with a loss of $59,171 for the same period of 1930. The company's balance sheet as of Sept. 5, 1931, shows current assets of $6,524,819, current liabilities of $1,061,912, leaving net working capital of $5,462,907.

Eliminates Funded Debt

By calling for payment $2,000,000 of its 6% serial notes, the last of an original issue of $5,000,000, due $500,000 annually from Nov. 30, 1930, to Nov. 30, 1939, the Bigelow-Sanford Carpet Co., Inc., with plants at Amsterdam, N. Y., Clinton, Mass., and Thompsonville, Conn., has eliminated all of its funded obligations. In connection with listing its preferred and common shares on the New York Stock Exchange, the company reported net sales for the six months ended June 30, 1931, of $9,654,361. Earnings for the period, equivalent to $1.91 per share on the common stock, had previously been reported to stockholders.

Alabama Bondholders Committee

Bondholders of the Alabama Mills Co. in which the Alabama Power Co. is heavily interested are taking concerted steps to protect their interests in connection with operation of the mills, according to advertisements appearing in papers in Alabama. These advertisements announced Oct. 19 as the final day for bondholders to file their bonds with the protection committee formed under a recent agreement.

National Fabric Special Meeting

A special meeting of stockholders of the National Fabric & Finishing Co., Boston, Mass., will be held Oct. 24 to vote on the question of retiring and cancelling 5,156 preferred shares acquired by the corporation; to authorize the acquisition of outstanding preferred shares tendered pursuant to directors' vote of Oct. 1, last, and to authorize the acquisition of further preferred shares; to authorize reduction of par value of the common stock from $100 to $10 per share and to take appropriate action in relation thereto.

Financial Brevities

Century Ribbon Mills, Inc., New York City, report for the eight months ended Aug. 31, last, net profit of $113,468 after taxes, depreciation, etc., which compares with net profit of $43,504 for the same period in 1930.

An additional liquidation dividend of 70c. per share was paid to stockholders of Flint Mills, Fall River, Mass., makink total liquidation dividends to date $55.70 per share.

The adjourned meeting of stockholders of the Pilgrim Mills, Fall River, Mass., scheduled for Oct. 22 has been further adjourned to Oct. 29 when action will be taken on the proposed merger with the Pemaquid Mills of New Bedford and the Queen City Manufacturing Co. of Burlington, Vt.

Boston Stock Auctions

The following sales of textile shares were made at auction, Oct. 14:

Shares	Mill	Par	Price	Change
30	Dwight	25	3½	+½
128	Naumkeag	100	50	....
3	Ludlow	...	67–66½	—3½
161	Total			

▸Textiles on N. Y. Exchanges

The following shows the movements of the leading textile stocks listed on the New York Stock Exchange and Curb for the week ended Oct. 20:

	High	Low	Last Sale	Net Ch'ge
Adams Millis	28½	26	28½	+1½
American Woolen	6½	4½	6	+1½
American Woolen, pfd	26½	22	26½	+3½
Belding-Heminway	6	5½	6	....
*Bleumenthal	5½	5½	5½	— ½
Botan Mills, A	1½	1	1	— ½
Cannon Mills	19	18½	19	....
Century Ribbon	7	5½	7	+ ½
Collins & Aikman	12½	10½	11½	....
Consolidated Textile	½	½	½	....
Durham Hosiery, pfd	21	21	21	....
Gotham Hosiery	7	6½	7	—2
Industrial Rayon	29½	25½	29½	+5½
Kayser, Julius	11½	9½	10½	+ ½
Kendall, pfd	39½	34	39	+6½
Mallinson	1½	1½	1½	+ ½
Mohawk Carpet	10½	10½	10½	+ ½
Munsingwear	15½	14	15	+ ½
Pacific Mills	11	10	11	+ ½
*Powdrell & Alexander	20	20	20	....
Real Silk Hosiery	3½	3½	3½	+ ½
*Tubize	3½	3	3½	+ ½
United Piece Dye Works	16	13	16	+3

*Listed on Curb.

▸Southern Mill Stocks

(R. S. Dickson & Co., Charlotte, N. C.)

	Bid	Asked
Acme Spinning Co	40	55
American Yarn & Processing Co	30	36
Chadwick-Hoskins Co. (Par $25)	4	8
Chadwick-Hoskins Co., 8%, pfd	77	83
Crescent Spinning Co	30	38
Durham Hosiery, 6%, pfd	15	23
Erwin Cotton Mills Co., 6%, pfd	83	90
Flint Mfg. Co	..	52
Flint Mfg. Co., 7%, pfd	80	90
Hanes, P. H. Knitting Co	3	6
Hanes, P. H. Knitting Co., 7%, pfd	75	89
Linford Mills	35	50
Perfection Spinning Co	38	50
Roanoke Mills, 1st pfd., 7½%	38	..
Rosemary Mfg. Co., pfd., 7½%	58	..
Stowe Spinning Co	32	50
Ware Shoals Mfg. Co	..	90
Ware Shoals Mfg. Co., 7%, pfd	84	91
Winget Yarn Mills Co	..	42
Wicasset Mills Co	100	120

(A. M. Law & Co., Spartanburg, S. C.)

Avondale Mills, Ala	500	600
Bibb Mfg. Co	78	83
Clifton Mfg. Co	..	65
D. E. Converse Co	..	53
Dunean Mills	70	85
Dunean Mills, pfd	94	96
Gossett Mills	..	30
Hunter Mfg. & Com. Co., pfd	68	74
Judson Mills, A pfd	83	86
Judson Mills, B pfd	79	83
Monarch Mills	65	75
Newberry Cotton Mills	..	75
Orr Cotton Mills	30	35
Pacolet Mfg. Co	..	40
Piedmont Mfg. Co	..	53
Riverside & Dan River Mills (Par $25)	6	8
Riverside & Dan River Mills (6%, pfd	50	53
Southern Bleachery & Print Works, pfd	..	40
Spartan Mills	..	95
Union-Buffalo Mills, 1st pfd	..	43
Victor-Monaghan Co	37	40

▸New England Textile Stocks

Quotations at "Public Sale" are based on last sales at Boston Public Auctions and Boston Stock Exchange. Bid and Asked prices are latest quotations of dealers.

	Sale	Bid	Asked
Am. Mfg. Co., pfd	50	50	..
Amoskeag	4½	..	..
Arlington	23	18	22
Associated Textile	10	10	15
Bates	60	40	45
Berkshire Associates, com	12½	2	5
Berkshire Associates, pfd	40½	20	25
Bigelow-Sanford, com	28	..	..
Boott Mills	120½	40	60
Edwards	80½	40	45
Esmond, pfd	96	95	99
Farr Alpaca	35½	25	32
Hamilton Woolen	55	50	55
Hill	7	4	8
Indian Orchard	10	..	10
Ludlow	66½	65	70
Merrimack, com	35	8	..
Nashua, com	7½	3	5
Nashua, pfd	29	22	25
Naumkeag	50	49	53
Newmarket	16½	7	12
Otis	45	37	42
Pacific	11½	..	..
Pepperell	65½	39	42
Plymouth Cordage	56	56	60
York	8½	5	8

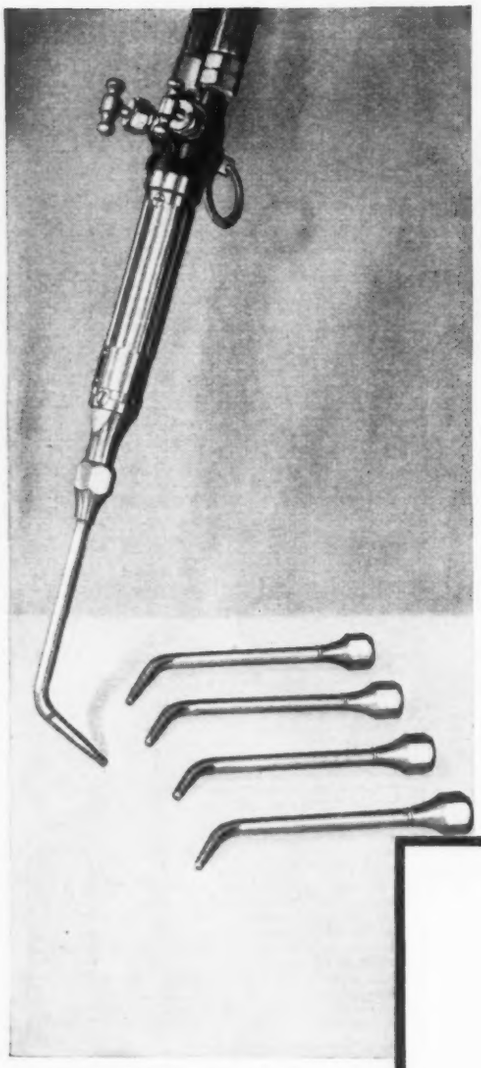
▸Fall River Mill Stocks

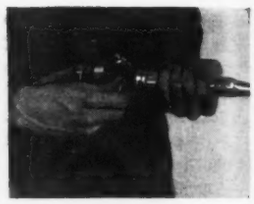
(G. M. Haffards & Co., Fall River)

	Bid	Asked
Algonquin Printing Co	..	228
Barnard Mfg. Co	7	..
Berkshire (com.)	6	8½
Berkshire (pfd.)	25	28½
Bourne Mills	12	..
Border City Mfg. Co	4	5
Charlton Mills	..	48
Davol Mills	2	5
General Cotton	1	3
Luther Mfg. Co	..	82
Narragansett Mills	..	5
Pepperell Mfg	38½	42
Pilgrim Mills	..	32
Richard Borden Mfg. Co	1	..
Sagamore Mfg. Co	..	52
Shove Mills	..	3
Stanford Mills	..	1
Stevens Mfg. Co	..	30

Are you *keeping step*

WITH SHEET METAL WELDING





TEN SECONDS IS ALL YOU NEED TO CHANGE BLOWPIPES

Every day, more and more sheet metal articles are being built or repaired by oxwelding. A single blowpipe capable of welding any gauge of sheet is now necessary equipment in every shop.

The Prest-O-Weld Type W-106 Blowpipe for automobile repair and sheet metal production shops is built to give just the right gas mixture for light welding, brazing, and soldering. With its five standard tips, which can be set at any angle for vertical or overhead welding, you can make clean strong joints in all ordinary thicknesses of sheet metal. A quick-acting ball type joint makes changing tips a matter of only a few seconds, with no wrench necessary. By adding an inexpensive stem tip adaptor, you can attach Type W-107 Aircraft Blowpipe Tips for extremely light gauge metal. Like all new-type Prest-O-Weld Blowpipes, the W-106 is easy to handle, rugged enough to stand up under rough usage, and extremely low in gas consumption.

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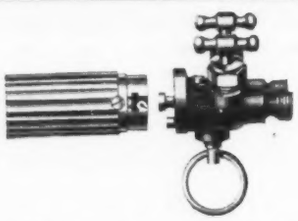
Prest-O-Weld Type W-106 Welding Blowpipe complete with five tips, Nos. 3 to 7 inclusive, lighter and wrench, $21.00

Prest-O-Weld Type W-106 handle assembly, with tips, lighter and wrench (same as above but without Detachable Valve Body).....$14.00

Prices slightly higher west of the Rocky Mountains.



PREST-O-WELD DETACHABLE VALVE BODY

The Prest-O-Weld Detachable Valve Body is one of the features of the W-106 and all other new-type Prest-O-Weld Welding Blowpipes. It enables you to substitute a larger welding blowpipe or a cutting blowpipe in ten seconds without disconnecting the hose.

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Dr. Taylor Aims to Avert Holeproof Strike

Dr. George W. Taylor, of the University of Pennsylvania, recently appointed arbiter for the unionized division of the full-fashioned hosiery industry, has undertaken as his first task, the problem of averting a strike in the Milwaukee mills of the Holeproof Hosiery Co. The agreement between the company and the American Federation of Full-Fashioned Hosiery Workers, expires Nov. 15, and Dr. Taylor has gone to Milwaukee to try to bring about some new scale that will be acceptable both to the union and the manufacturers.

New Hosiery Research Bureau Formed

A new firm under the name Hosiery Research Bureau has been established in New York, which will conduct a hosiery testing service for distributors. Offices have been opened at 501 Seventh Ave. The service will include comparing of quality values of standard lines and seeking to detect misrepresentations. It will be under direction of H. L. Linken. The firm plans a 24-hour service.

Keller Heads New Hosiery Association

The Association of Full-Fashioned Hosiery Manufacturers, recently formed in Philadelphia, held a meeting there this week at which Harry E. Keller, of Brownhill & Kramer, full-fashioned hosiery manufacturers, was elected general manager. The organization soon will apply for a charter; the main objective of the association as stated, is safeguarding the general welfare of the full-fashioned hosiery industry, employees and employers alike.

Hosiery Association Directors' Meeting Postponed

The meeting of the board of directors of the National Association of Hosiery and Underwear Manufacturers, scheduled to be held last Monday, at the New York offices of the association, was postponed until Monday, Oct. 26, because of the illness of the president, William Meyer, president of Apex Hosiery Co., Philadelphia.

Navy Dept. Asks Bids on Parachute Silk, Blankets

The Navy Department, Washington, has asked for bids on 200 white wool officers' blankets, type A, size 72 x 84, bids to be opened Nov. 10, and on 10,000 linear yards of white parachute silk, 5,000 yds. within 30 days, remainder within 60 days after date of contract, bids to be opened Nov. 3.

Seventh New England Conference, Nov. 19-20

Describing the present as a period which challenges New England to contribute to national business leadership, Harry C. Knight, president of the New England Council, has issued the formal call for the Seventh New England Conference, the annual gathering of New England business men with the six New England governors, to be held this year on Nov. 19 and 20 in Boston.

Peterborough Celebrates Joseph Noone Centenary

The centenary of Joseph Noone's Sons Co., Peterborough, N. H., was celebrated in the town of Peterborough on Oct. 14. A banquet was held at The Tavern at which Maj. A. Erland Goyette, general manager of the company, was toastmaster. A bronze paperweight was presented to A. W. Noone, president of the company, and 49 service pins for service of five years or more were presented to employees. Three employes received 45-year service pins. The employees presented Mr. Noone with a cane. The dinner was followed by a program of entertainment at the Town House. The facts regarding this 100th birthday of the Noone firm were given in TEXTILE WORLD for Oct. 10, 1931.

Reminder of Southern Textile Exposition

Textile Hall Corp., Greenville, S. C., mailed approximately 1,700 folders to executives of southern textile plants on Oct. 17 reminding them that the 10th Southern Textile Exposition was only 12 months off. It was stated that all space in the two exposition buildings had been applied for by leading manufacturers of textile installations, machinery, accessories and supplies.

Business News

New Machinery Merger in England

Textile Machinery Makers, Ltd., has been incorporated in England with capital of £3,403,000. It is understood that six Lancashire firms may be joined in this company. The directors are as follows: Sir George Bullough, W. D. Smith, and J. Redman of Howard & Bullough; E. V. Haigh of John Hetherington & Sons; W. Preston, A. Brothers, Mr. Rippon of Platt Bros. & Co.; J. L. Rushton, H. L. Rushton and A. H. Lawton.

D. R. Dixon Now Manager of Atlanta Textile Supply Co.

D. R. Dixon, manager of the Greenville Textile Supply Co. since January 1926, has been made manager of the Atlanta (Ga.) Textile Supply Co., which is under the same ownership. C. M. McClure, who has been connected with the Greenville company for some time, will succeed Mr. Dixon as manager.

Paper Makers Chemical Corp. Consolidates With Hercules

Negotiations have been completed for the consolidation of Paper Makers Chemical Corp. with Hercules Powder Co., Wilmington, Del. The former concern will continue to operate under its own name.

Secretary Hyde to Speak at "Wool Week" Dinner

Arthur C. Hyde, Secretary of Agriculture and James Stone, Chairman of the Federal Farm Board will speak at the National Wool Week dinner at the Hotel Waldorf-Astoria, New York, on Nov. 7, according to an announcement by Charles F. H. Johnson, chairman, National Wool Week Committee.

Blue and beige have been selected as the official National Wool Week hues. The colors were chosen at a meeting of the color committee of the National Wool Week Committee at the New York offices of the Textile Color Card Association of the United States. In a statement issued by the Color Committee, the color selection was explained as follows:

"We have chosen Yankee Blue as indicating the general tone to be emphasized. It is a lighter-than-navy tone and is ideal for dresses and for sportswear and in some instances for dressy coats. The beige we selected is on the general order of the Cachou Beige and is good for both dresses and coats."

Lawrence Strike Situation Little Changed

The first real test of strength in Lawrence, Mass., where over 20,000 have been on strike for two weeks as a result of a 10% wage cut, occurred on Monday when the mills were reopened and the operatives invited to return to work. Very few responded and it was impossible to run the mills. Although almost all the workers were in the picket line, there was no disorder and it was not until later that groups toured around in automobiles throwing stones wrapped in warning notes through the windows where strike breakers resided. There were a few arrests for intimidation of workers.

Mill men state that their position has not changed and that no further efforts will be made to open the mills until the workers manifest a desire to return. Further conferences are being held with Governor Joseph B. Ely and with the State board of conciliation and arbitration and it is hoped that some plan will be worked out.

Boston Wool Receipts

Receipts of domestic and foreign wools at Boston, also imports at Philadelphia and New York for the week ended Oct. 17, based upon data compiled by the Department of Agriculture, follow:

	Week Ended Oct. 17	Total to Date 1931	Total to Date 1930
Domestic	4,327,000	242,778,000	233,458,000
Foreign	491,000	34,569,000	51,145,000
Total	4,818,000	277,347,000	284,603,000
IMPORTS AT PRINCIPAL PORTS			
Boston	491,000	34,569,000	51,145,000
Philadelphia	1,002,000	44,066,000	37,965,000
New York	1,452,000	42,411,000	35,918,000
Total	2,945,000	121,046,000	125,028,000

QUOTATIONS

at close of business, Oct. 21, 1931

Prices cover average qualities unless otherwise stated

Cotton Goods

	Oct. 21	Oct. 14	Oct. 22 1930
PRINT CLOTHS			
27 -in., 64x60, 7.60	2¼c.	2 3/16c.	4¼c.
38½-in., 64x60, 5.35	3¼c.	3¼–3⅜c.	5½c.
39 -in., 68x72, 4.75	4¼c.	4¼c.	6½c.
39 -in., 72x76, 4.25	4⅛–4¼c.	4⅛–4¼c.	6¾–7c.
39 -in., 80x80, 4.00	5¼c.	5¼c.	7¼–8c.
BROWN SHEETING			
36-in., 56x60, 4.00	4¼c.	4¼c.	6½–6¾c.
36-in.,48x48, 3.00	4¼c.	4¼c.	7¼–7½c.
37-in., 48x48, 4.00	3¾–4c.	4c.	5¼–6c.
PAJAMA CHECKS			
36½-in., 72x80, 4.70	4¼–4¼c.	4¼c.	6½–6¾c.
36 -in., 64x60, 5.75	3¼–4c.	3¼–4c.	5½c.
MISCELLANEOUS			
Drills, 37-in., 3 yd.	4¼c.	5 c.	7½c.
Denims, 2.20	9½c.	9½c.	12½c.
Tickings, 8 oz.	13 c.	13 c.	16 c.
Standard prints	7 c.	7 c.	7½c.
Eastern staple ginghams, 27-in.	7½c.	7½c.	8 c.

Cotton Waste

(Prices Nominal)

Peeler comber	5	5½
Peeler strips	5	5½
Sak. comber	4½	5
Choice willowed fly	2½	3¼
Choice willowed picker	2	3
Sak strips	6½	8
Linters (mill run	1½	2½
White spooler (single)	4	4½

Cotton Yarn

CARDED (Average Quality)

Double Carded 2c.—4c. higher according to quality

SINGLE SKEINS OR TUBES (Warp Twist)

4s to 8s	$0.14	22s	$0.17½
10s	– .14½	24s	– .18½
12s	– .15	26s	– .19½
16s	– .16½	30s	– .21
20s	–.16½	40s ex. qual.	– .30

TWO-PLY SKEINS AND TUBES

8s-2	$0.14½	26s-2	$0.19
10s-2	– .14½	30s-2	.20 – .20½
12s-2	– .15	36s-2	.25½– .26½
14s-2	– .15½	40s-2	– .28½
16s-2	– .16	40s-hi.brk.	.30 – .31
20s-2	– .16½	50s-2	– .36
24s-2	– .18	60s-2	– .39

SINGLE WARPS

10s	$0.14½	24s	$0.18
12s	– .15	26s	– .19
14s	– .15	30s	– .21½
16s	– .15½	40s.ex.qual.	– .30
20s	– .16½		

TWO-PLY WARPS

8s-2	$0.15	24s-2	$0.18½
10s-2	– .15½	26s-2	– .19½
12s-2	–	30s-2	.20 – .21
14s-2	.16 – .16½	40s-2 ordin.	– .28½
16s-2	.16½– .17	50s-2	– .36
20s-2	.17 – .17½	60s-2	– .39

8s-2 and 4-ply skeins and tubes; tinged, 13; white, 14; waste, 12

HOSIERY CONES (Frame Spun)

8s	$0.14	22s	$0.17½
10s	– .14½	24s	– .18
12s	– .15	26s	– .19½
14s	– .15½	30s tying	.20 – .20½
16s	– .16	30s rec	– .21½
18s	– .16½	30s ex.qual.	– .22½
20s	– .17	40s	– .27½

COMBED PEELER (Average Quality)

TWO-PLY—(Knitting Twist) Cones

20s-2	$0.25 – .26	60s-2	$0.42 – .45
30s-2	.30 – .31	70s-2	.55 – .56
36s-2	.33 – .34	80s-2	.64 – .66
40s-2	.34 – .35	90s-2	.90 – .95
50s-2	.37 – .38	100s-2	1.03 –1.05

WARPS, SKEINS AND CONES

TWO-PLY—(Warp Twist)

20s-2	$0.26	60s-2	$0.42
30s-2	– .31	70s-2	– .55
36s-2	– .34	80s-2	– .63
40s-2	– .35	90s-2	– .93
50s-2	– .38	100s-2	–1.03

SINGLES

12s	$0.20½	30s	$0.28 – .29
14s	– .21	38s	.32 – .33
16s	– .21½	40s	.33 – .34
18s	– .22	50s	– .37
20s	– .23	60s	.45 – .46
24s	.25 – .25½	70s	.55 – .56
28s	.27 – .28	80s	.65 – .66

MERCERIZED CONES—(Combed, Ungassed)

26s-2	$0.41½– .43½	90s-2	$1.05–1.17
30s-2	.42½– .44½	100s-2	1.34–1.49
36s-2	.44 – .46	120s-2	1.70–1.85
40s-2	.45 – .47	30s-2	– .51
45s-2	.46½– .48½	40s-2	– .56
50s-2	.48 – .50	50s	.64– .66
60s-2	.56 – .58	60s	– .71
70s-2	.68 – .70	70s	.82– .84
80s-2	.80 – .82	80s	1.02–1.05

Cotton Prices and Statistics

COTTON STATISTICAL DATA

(Fluctuations of Futures)

	Closed Oct. 15	For Week High	For Week Low	Closed Oct. 21	Net Ch'ge
October	6.04	6.71	6.04	6.66	+.62
November	6.05	6.60	6.05	6.67	+.62
December	6.04	6.85	6.08	6.77	+.63
January	6.25	6.94	6.20	6.86	+.61
February	6.33	6.89	6.33	6.95	+.62
March	6.43	7.13	6.38	7.06	+.63
April	6.52	7.09	6.52	7.13	+.61
May	6.63	7.32	6.58	7.23	+.60
June	6.71	7.29	6.71	7.31	+.60
July	6.80	7.50	6.71	7.41	+.61
August	6.90	7.57	6.90	7.51	+.61
September	....	7.66	7.24	7.66	.....

SPOT FLUCTUATIONS FOR WEEK

(Middling)

	New York	New Orleans	Liverpool
Thursday, Oct. 15	6.20	5.98	4.81
Friday, Oct. 16	6.25	6.08	4.77
Saturday, Oct. 17	6.50	6.25	4.78
Monday, Oct. 19	6.75	6.55	4.85
Tuesday, Oct. 20	6.65	6.42	4.94
Wednesday, Oct. 21	6.80	6.60	4.90

FOREIGN COTTONS

Egyptian Cotton

Alexandria Exchange, Oct. 20		Change
Nov. Sak	13.74	+0.22
Oct. uppers	9.46	+0.65

Oct.-Nov. Shipment c.i.f. Boston

(Tariff not included) (Prices Nominal)

Fully good fair Sak	14.00
Fully good fair to good Uppers	10.50

(By Anderson, Clayton & Co.)

Foreign cottons	F. O. B. New York, Cents
Peruvian Tanguis Strict Middling	17
Peruvian Pima No. 1	16½
Peruvian Moderate Rough	11
Peruvian Full Rough	17*
China Tientsin No. 1	10
India Rough	7 to 9
India Smooth	6½ to 8

(By Bruns-Nordeman Co.)

MOVEMENT INTO SIGHT

	This Year	Last Year	Year Before Last
Week	843,000	705,000	996,000
Season	3,953,000	5,076,000	5,228,000

WORLD VISIBLE SUPPLY

	Today	One Year Ago
Interior towns and ports of U.S.*	5,379,000	4,375,000
Afloat to and at Ports of Europe	1,040,000	1,405,000
Afloat to and at ports of Orient	439,000	301,000
Total	6,858,000	6,081,000
Change during week	Increase 533,000	Increase 421,000

*Includes afloat to New York.

FORWARDING TO MILLS OF WORLD

	This Year Week	This Year Season	Last Year Week	Last Year Season
No. States, U.S.	18,000	155,000	23,000	130,000
So. States, U.S.	118,000	869,000	144,000	854,000
Total U.S.	136,000	1,024,000	167,000	984,000
Great Britain	20,000	200,000	18,000	169,000
Continent	59,000	576,000	80,000	700,000
Orient	91,000	443,000	13,000	137,000
Canada and other America	4,000	32,000	7,000	42,000
Total foreign countries	174,000	1,251,000	118,000	1,048,000
World total	310,000	2,275,000	285,000	2,032,000

EXPORTS FROM UNITED STATES

Total	174,000	1,099,000	280,000	1,780,000

EXPORTS FROM UNITED STATES

Total	94,000	925,000	172,000	1,500,000

AVERAGE PRICE OCT.-NOV. SHIPMENT HARD WESTERN COTTON

F.o.b. New Engoand

	Middling	St. Middling
1 1/16-in	8½– 8¾c.	9 – 9¼c.
1⅛-in	9¼— 9½c.	9¾–10¼c.
1—in	10½–10¾c.	11¼–11½c.
1¼-in	13½–15 c.	14½–16 c.

Basis on New York, December, 6.58.

SPOT FLUCTUATIONS AND STOCKS

Markets	Oct. 14	Oct. 21	Sales	Stocks This Week	Stocks This Year
Galveston	5.90	6.60	1,350	756,165	483,558
New Orleans	5.95	6.60	29,461	600,239	534,171
Mobile	5.70	6.20	3,583	233,463	91,332
Savannah	5.91	6.46	2,864	387,254	253,822
Norfolk	6.13	6.75	1,287	59,391	75,667
New York	6.25	6.80	7,800	230,186	230,646
Augusta	5.88	6.56	2,338	113,869	125,953
Memphis	5.50	6.05	127,414	277,189	302,626
St. Louis	5.75	6.30	.....	.....	2,003
Houston	5.90	6.55	68,419	1,398,331	1,270,154
Dallas	5.45	6.20	78,821	34,051	18,224

DIFFERENCES ON AND OFF MIDDLING

WHITE GRADES

	Dallas	Memphis	Montgomery	Augusta	Average
M.F	0.65†	1.00†	0.75†	0.75†	0.75†
S.G.M	.50†	.75†	.65†	.63†	.61†
G.M	.40†	.50†	.55†	.44†	.44†
S.M	.25†	.20†	.25†	.25†	.26†
S.L.M	.40*	.40*	.40*	.38*	.39*
L.M	.90*	.90*	.90*	.88*	.87*
S.G.O.**	1.40*	1.10*	1.40*	1.38*	1.28*
G.O	1.90*	1.20*	1.90*	1.88*	1.70*

YELLOW TINGED

G.M	0.30*	0.25*	0.40*	0.50*	0.39*
S.M	.55*	.40*	.65*	.75*	.62*
M.**	.90*	.50*	.90*	.88*	.85*
S.L.M	1.40*	.90*	1.40*	1.38*	1.27*
L.M	1.90*	1.40*	1.90*	1.88*	1.73*

YELLOW STAINED

G.M	0.90*	0.60*	0.90*	0.90*	0.86*
S.M.**	1.15*	1.10*	1.15*	1.25*	1.18*
M.**	1.90*	1.35*	1.75*	1.90*	1.71*

BLUE STAINED

G.M.**	0.90*	0.35*	0.90*	0.90*	0.84*
S.M.**	1.40*	.85*	1.40*	1.40*	1.26*
M.**	1.90*	1.10*	1.90*	1.90*	1.70*

**Grades not deliverable on contract.

*Off Middling.

Wool

OHIO, PENNSYLVANIA AND WEST VIRGINIA (IN GREASE)

Fine delne.	$0.24 –$0.26	¾ blood.....	$0.23 –0.24
Fine clthg..	.20 – .22	¼ blood.....	.21½– .22
⅜ blood....	.24 – .24½		

TEXAS AND CALIFORNIA (CLEAN BASIS)

Texas, 12 months	$0.57 –0.59
California, Northern	.48 – .50

PULLED—EASTERN (CLEAN BASIS)

A.A.....	$0.62 –$0.64	B-Super....	$0.45 –0.47
A-Super...	.49 – .52	C-Super....	.40 – .41

MONTANA, IDAHO AND WYOMING (CLEAN BASIS)

Staple fine	$0.58 –0.60
Staple ½ bld.	.55 – .57
Fine and fine medium	.55 – .57
¾blood	.48 – .50
½blood	.42 – .44

MOHAIR—DOMESTIC

Best carding	$0.23 –0.25
Best combing	.31 – .33

MOHAIR FOREIGN (IN BOND)

Turkey fair, average	$0.17 –0.21
Cape firsts	.18 – .21

FOREIGN CLOTHING AND COMBING (CLEAN BASIS IN BOND)

Australia:	
70s	$0.50 –0.52
64s	.44 – .45
58s-60s	.38 – .39
(IN GREASE)	
Montevideo:	
58s-60s	$0.18 –0.19
56s	.17 – .19
50s	.15 – .17
Buenos Aires:	
4s, 40-44s	$0.13 –0.14
5s, 36-40s	.12 – .14

FOREIGN CARPET (GREASE BASIS IN BOND)

Aleppo washed	$0.23 –0.25
China: Combing No. 1	.13 – .14
China Filling Fleece	.12 – .14
Szechuen ass't	.12 – .14
Cordova	.14 – .15
Scotch black face	.15 – .17
East India: Kandahar	.17 – .19
Vican'r	.23 – .25
Joria	.23 – .24

Worsted Yarns

ENGLISH SYSTEM WEAVING

2-20s 36s	$0.75 –0.77½
2-24s 40s	– .80
2-26s 44s	.82½– .85
2-28s 46s	– .87½
2-30s 48s	.92½– .91
2-32s 50s	.97½–1.00
2-30s 64s fancy mixes	1.35 –1.37½
(Single yarns 5c. less than above)	
2-36s 58s	$1.10 –1.12½
2-40s, 60s	–1.20
2-40s, 64s	1.27½–1.32½
2-50s, 66s	1.40 –1.45
2-60s, 70s	1.82½–1.85

ENGLISH SYSTEM KNITTING

2-20s, 44s in oil	$0.75 –0.77½
2-20s, 48s in oil	– .80
2-20s, 50s in oil	.77½– .82½
2-20s, 56s in oil	.92½– .95
2-20s, 60s in oil	–1.05
2-20s, 64s in oil	1.12½–1.15
1-18s, 48s dyed	.90 – .92½
1-18s, 50s dyed	.92½– .95
(Oil yarns 17½c. less)	

FRENCH SYSTEM

1-20s, 58s	$1.00 –1.05
1-20s, 60s	1.05 –1.07½
1-18s, 64s, dyed	1.30 –1.32½
1-26s, 64s	1.67½–1.10
1-30s, 66s, Warp	1.20 –1.22½
1-30s, 64s, Warp	1.20 –1.22½
2-30s, 64s, Fancy mixes	1.40 –1.42½
2-40s, 64s, Zephyrs	1.32½–1.35
1-50s, 66s	1.47½–1.50
2-50s, 66s	1.50 –1.55
1-60s, 70s	1.82½–1.85
2-60s, 70s	1.90 –1.95

FRENCH SPUN MERINO WHITE

1-30s, 50-50-58s on cops	$0.95 –1.00
1-40s, 50-50-60s on cops	1.10 –1.15
1-40s, 50-50-64s on cops	1.12½–1.15
1-40s, 50-50-64s Australian cops	1.20 –1.25

Underwear mixes, 3 to 5c., Solid color, 35c. additional.

New York Top Futures

	Closed Oct. 14	For Week— High	Low	Closed Oct. 20	Net Ch'ge
October	68.00	71.50	67.00	67.00	—1.00
November	68.00	70.00	68.00	68.00	.....
December	67.00	71.00	67.00	67.00	.....
January	67.00	68.50	67.00	67.00	.....
February	67.00	68.70	66.80	66.80	—0.20
March	66.40	68.30	66.40	66.40	.....
April	66.00	67.50	66.00	66.00	.....
May	65.60	67.50	65.60	66.50	+0.90
June	65.20	66.70	65.20	65.50	+0.30
July	64.80	68.50	64.80	65.50	+0.70
August	64.40	66.00	64.40	65.30	+0.90
September	64.40	66.00	64.00	64.90	+0.50

Tops and Noils

TOPS—BOSTON

Fine (64-66 2s)	$0.80 –0.83
Half-blood (60-62s)	73 – .77
High ¾ blood (58s)	.67 – .69
Aver. ¾ blood (56s)	.61 – .64
Low ¾ blood	.58 – .60
High ¼ blood (50s)	.53 – .55
46s S. A. and N. Z.	.61 – .63
44s S. A. and N. Z.	.56 – .58
40s S. A. and N. Z.	.50 – .52

TOPS—BRADFORD, ENG. (OCT. 16)

Fine (70s)	26 d	¾ bld. (56s)	17½d
Fine (64s)	24½d	½ bld. (50s)	13½d
½ bld. (60s)	22½d	Cross-bred (46s)	11 d

NOILS—BOSTON

Fine	$0.36–$0.38	High ¼ bld.	$0.29 –$0.30
Half-bld	.34 – .35	Low noils	.25 – .28
Aver. ¾ bld.	.34 – .35	Medium colored	.23 – .25
Fine colored	.31 – .32		

Wool Substitutes

WOOL WASTE

Lap, fine white	$0.58 – .61
Lap, fine colored	.45 – .49
Hard ends, fine white	.45 – .50
Hard ends, ¼ blood white	.31 – .33
Hard ends, fine colored	.21 – .24
Hard ends, medium colored	.14 – .17½
Card, fine white	.21 – .24½
Burr, fine Carbonizing	.26 – .29

OLD WOOLEN RAGS (GRADED FOR MFRS.)

Merinos, coarse light	$0.05 –0.05½
Merinos, fine dark	.03½– .04
Merinos, fine light	.10 – .11
Serges, blue	.05½– .06
Serges, black	.05½– .06
Serges, red	.08 – .09
Knit, white	.21 – .22
Knit, red	.10 – .11
Knit, light hoods	.10½– .11½
Worsted, light	.05 – .05½
Worsted, blue	.05½– .06
Worsted, black	.06 – .06½

Silk Yarns

THROWN SILK (60 day basis)

	Nominal
Japan organzine, 2 thd. spec. gd. XX sk. 85%	$3.65
Japan organzine 2 thd. grand sk. 83%	3.50
Japan organzine, 2 thd. sp. crack. sk. 81%	3.40
Japan crepe, 3 thd. gd. XX bob. 83%	3.50
Japan crepe, 3 thd. sp. crack. bob. 81%	3.40
Japan grenadine, 4 thd. sp. grand singles, 87%	4.70
Japan grenadine, 3 thd. 90%	5.50
Canton crepe, 3 and 4 thd. 14/16 on bobbins	2.40
Hosiery tram, 3 thd. Japan 90%	4.35
Hosiery tram, 5 thd. Japan, 85%	3.40
Hosiery tram, crack XX 78%	3.10

SPUN SILK YARNS (Terms: net 30)

40/2	$3.10	60/2	$3.45
54/2	3.30	62/1	2.35

Raw Silk

(60 Day Terms. Spot Goods)

	13/15 White	20/22 White	20/22 Yellow
Super Grand, 87%	$2.95	$2.45	$2.40
Special Grand, 85%	2.70	2.40	2.35
Grand XX, 83%	2.55	2.35	2.30
Special Crack, 81%	2.45	2.30	2.25
Crack XX, 78%	2.35	2.25	2.15
Extra Extra, 73%	2.30	....	....
Best Extra, 68%	2.25	....	....
Canton filature, new style, 14/16			$2.00
Canton filature, new style, 20/22			1.85
Tussah filature, 8 cocoon			1.05

NATIONAL RAW SILK EXCHANGE

	Close Oct. 14	For the Week High	Low	Close Oct. 20	Net Ch'ge
October	2.32	2.33	2.31	2.33	+.01
November	2.28	2.28	2.27	2.28	.....
December	2.27	2.28	2.27	2.27	.....
January	2.27	2.29	2.25	2.26	—.01
February	2.26	2.28	2.25	2.26	.....
March	2.26	2.28	2.25	2.26	.....
April	2.24	2.27	2.24	2.24	.....
May	2.24	2.27	2.24	2.25	+.01

Total number of bales, 4,330. Total approximate value, $1,353,341.50. Trading unit crack XX 13/15 white 78%.

Domestic Rayon

VISCOSE PROCESS

Denier	Filament	First	Second
50	14	$2.15	$1.95
75	18–30	1.35	1.25
100	18–40	1.10	1.00
125	36–50	1.00	.90
150	30	.70	.67
150	24–40	.75	.72
150	60	.85	.82
150	75–90	.85	.82
170	24–27	.75	.72
170	60	.85	.82
200	30	.75	.72
200	35–42	.75	.72
300	42–62	.63	.60
450	54–60	.63	.60
600	72–96	.63	.60
900	100–144	.63	.60

NITRO-CELLULOSE PROCESS

Denier	First Qual.	Second Qual.	Denier	First Qual.	Second Qual.
75	$1.35	$1.25	150	$0.75	$0.72
100	1.05	.95	175	.75	.72
125	.95	85			

CUPRAMMONIUM PROCESS

Denier	Filament	Price	Denier	Filament	Price
15	24	$3.10	65	45	$2.00
25	24	2.85	80	60	1.70
30	24	2.60	100	75	1.35
40	30	2.40	120	90	1.22
52	30	2.20	150	112	1.10
			180	135	.97

ACETATE PROCESS

Denier	Price	Denier	Price
45	$1.60	125	$1.10
60	1.50	150	1.00
75	1.40	300	1.00
100	1.30		

Rayon Waste

Open bleached waste	$0.13–$0.14
Open unbleached waste	.10½
Bleached thread waste (mfs.)	.09
Bleached thread waste (misc.)	.06– .07
Colored thread waste	.03– .01
Colored clips	.03– .04

CONVERTED RAYON WASTE

Bleached tops	$0.30–0.32½
Unbleached tops	.27– .28
Bleached noils	.11
Unbleached noils	.09½
Bleached garnetts	.12
Unbleached garnetts	.13
Colored garnetts	.10– .11

Silk Waste

Kibizzo Kakai Grand XX	$0.50
Kibizzo Kakai Triple Extra	.44
Frison Grand Double	.49
Pierced Cocoons	.50

WARNER J. STEEL

Worsted Yarns

for Weaving and Knitting

TOPS

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Established over 91 Years

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YARN AND TOP

GILET CARBONIZING CO., INC.

LOWELL, MASS.

Sorting Scouring Carbonizing Depainting
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by Sulphuric Acid, Aluminum Chloride Processes
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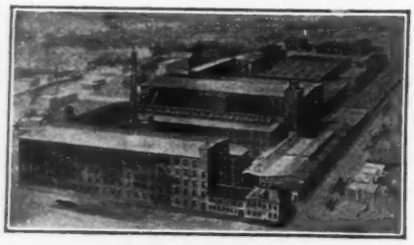

Underwear
Hosiery Sweater
Weaving

YARNS

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